Health Care Financing

Status Report

Research and Demonstrations in Health Care Financing

Fiscal Year 1991 Edition

U.S. Department of Health and Human Services
Health Care Financing Administration
Office of Research and Demonstrations

Health Care Financing

Status Report

The Office of Research and Demonstrations (ORD), Health Care Financing Administration (HCFA), directs more than 300 research, evaluation, and demonstration projects. A central focus is on program expenditures as they relate to payment, coverage, eligibility, and management alternatives under Medicare and Medicaid. Study activity also examines program impact on beneficiary health status, access to services, utilization, and out-of-pocket expenditures. The behavior and economics of health care providers and the overall health care industry are also topics of investigation.

These activities are carried out by three major components—the Office of Research, the Office of Demonstrations and Evaluations, and the Office of Operations Support. The Office of Research conducts and supports data collection efforts and research on health care providers, payment approaches, beneficiary behavior, and health care utilization. The Office of Demonstrations and Evaluations funds, manages, and evaluates pilot programs that test new ways of delivering and financing Medicare and Medicaid services. The Office of Operations Support provides ORD-wide administrative direction for its research, demonstration, and evaluation projects, which includes the budget and accounting operations; grants, cooperative agreements, and contracts-award process; and publications and information resources program.

This report provides basic information on active intramural and extramural projects in a brief format. These projects are used to assess new methods and approaches for providing quality health care while containing costs, and they often provide the basis for making critical policy decisions on health care financing issues.

Projects are arranged according to ORD budget priority areas and subject categories. The synopsis on each project includes the title, project number, project period, name and address of awardee, contractor, or grantee organization, Federal project officer with primary responsibility for the project, a brief description, and the status of the project as of September 30, 1991. When a project involves research and development funds, the total funding amount for the life of the project is included. Remaining extramural projects are being conducted with waivers that permit innovations to financing and delivery of health services under the Medicare and Medicaid programs.

This is the twelfth edition of the *Status Report*. Updated editions are produced on an annual basis. The information presented should be of use to policy officials, health planners, and researchers in examining the range of research and demonstration activities that are undertaken by ORD and the implications of results and findings.

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U.S. Department of Health and Human Services
Health Care Financing Administration
Office of Research and Demonstrations
Baltimore, Maryland 21207

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Requests to be placed on our mailing list to receive notification of future publications as they become available should be sent to: Health Care Financing Administration, Office of Research and Demonstrations, Publications and Information Resources, Room 1-A-9 Oak Meadows Building, 6325 Security Boulevard, Baltimore, Maryland 21207.

Contents

Quality of Care

Hospital Care

Hospital, Market, and Peer Review Organization Factors Affecting Unnecessary Utilization and Quality of Care

Project No.: 500-88-0035
Period: June 1988—December 1990
Funding: $ 2,436,392
Award: Contract
Contractor: Abt Associates, Inc.
55 Wheeler Street
Cambridge, MA 02138-1168
Project Officer: Paul W. Eggers, Ph.D.
Division of Beneficiary Studies
Mandate: Social Security Amendments of 1983
(Public Law 98-21)

Description: The purpose of this study is to evaluate the effects of hospital, market, and peer review organization (PRO) characteristics on unnecessary utilization and quality of care. The study will specifically address four research questions:

- How have levels of unnecessary utilization and poor quality of care changed since the implementation of the prospective payment system (PPS)?
- What hospital and market characteristics are associated with the greatest utilization and quality problems?
- What is the relationship between hospital financial vulnerability to PPS and rates of unnecessary utilization and quality of care problems?
- How has PROs' behavior—in terms of the stringency of their denials—affected utilization rates and quality problems?

Analyses will be conducted using data bases constructed from the SuperPRO data base (N = 120,000 records) linked with Medicare provider analysis and review records to obtain charge information, and using the Health Care Financing Administration's hospital cost reports to obtain information on hospital characteristics and financial vulnerability to PPS.

Status: The contractor has completed the file construction phase and is developing predictive models. A draft final report was received in summer 1991 and is under review.

Impact of the Prospective Payment System on the Quality of Inpatient Care

Project No.: 15-C-98663/5
Period: September 1984—January 1989
Funding: $ 275,689
Award: Cooperative Agreement
Awardee: Commission on Professional and Hospital Activities
1105 Eisenhower Place
Ann Arbor, MI 48106-0304
Project Officer: Lawrence E. Kucken
Division of Beneficiary Studies
Mandate: Social Security Amendments of 1983
(Public Law 98-21)

Description: The purpose of this project was to evaluate the effect of the Medicare hospital prospective payment system (PPS) on the quality of inpatient care provided to Medicare patients by examining several indicators of hospital performance. This examination was based on data from the Professional Activity Study maintained by the Commission on Professional and Hospital Activity (CPHA), and supplemented by data from several other sources maintained by CPHA.

Status: The first and second year's project reports have been completed. A final project report has been submitted to the Health Care Financing Administration. The more salient findings are:

- A decline in hospital average length of stay was found to be associated with the introduction of PPS. This PPS effect was determined to be stronger when only surgical cases were considered.
- A decline in total hospital discharges was observed as a long-term trend but not as an immediate reaction to PPS. Other findings examine utilization trends during the pre- and post-PPS periods including pre- and post-operative lengths of stay, use of intensive and cardiac care units, discharge destinations, and readmission rates.

The final report entitled "Impact of Medicare's Prospective Payment System on Inpatient Care" is available from the National Technical Information Service, accession number PB91-200980.

Analysis of Hospital Aftercare under Prospective Payment

Project No.: 500-86-0017
Period: April 1986—October 1989
Funding: $ 1,527,891
Award: Contract
Contractor: System Sciences, Inc.
4330 East-West Highway
Bethesda, MD 20814
Project Officer: Lawrence E. Kucken
Division of Beneficiary Studies
Mandate: Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)

Description: The purpose of this pilot study was to develop and field-test methods for determining the appropriateness of post-discharge aftercare services. Study methods involved classifying patients at the time of their discharge from the hospital according to their post-discharge service needs and applying professionally developed guidelines to project aftercare needs. Projected needs were then compared with services received based on interview data.

Status: The project methodologies and instrumentation have been completed and field tested. The final report

has been received in the Office of Research and Demonstrations. Findings indicated that the data collection methods were feasible and hospital participation and interview rates were high. The validity of the aftercare guidelines was confirmed through analysis of patient adverse outcomes. The final report is being prepared for submission to the National Technical Information Service.

Aftercare Guideline Manual

Project No.: HCFA-90-1257
Period: September 1990—July 1991
Funding: $ 24,650
Award: Contract
Contractor: Mathematica Policy Research, Inc.
P.O. Box 2393
Princeton, NJ 08543-2393
Project Officer: Lawrence E. Kucken
Division of Beneficiary Studies

Description: The purpose of this project was to develop an Aftercare Guideline Manual. The manual is intended to serve as a tool for hospital discharge planners and other health care professionals in formulating patient care plans covering the immediate post-hospitalization period. This manual was based on the report of aftercare guidelines developed from the "Analysis of Hospital Aftercare Under Prospective Payment," Project No. 500-86-0017.

Status: The project resulted in the production of two versions of the manual. One version is intended for use by hospital discharge planners in the development of post-hospitalization plans for community-bound patients. The other version is targeted for use by home health agencies as a quality assurance tool. The latter version allows for retrospective development of post-hospitalization plans which can be used as a basis for comparing actual services rendered. Both manuals employ the same methodology for defining a minimal level of post-hospitalization services. The project has been completed. The manuals will be submitted to the National Technical Information Service.

Trends in Patterns of Post-Hospital Service Use and Their Impact on Outcomes

Project No.: 17-C-99009/4
Period: June 1987—August 1990
Funding: $ 293,922
Award: Cooperative Agreement
Awardee: Duke University
Demographic Studies
2117 Campus Drive
Durham, NC 27706
Project Officer: Lawrence E. Kucken
Division of Beneficiary Studies
Mandate: Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)

Description: Researchers examined the pattern of care delivered after hospitalization for different types of hospitalized patients, as distinguished by diagnosis, age, sex, and other data elements contained on the Medicare Part A bill. Post-hospital use patterns were examined in terms of types and duration of Medicare services received and the proportion of patients receiving care. Similar patterns were examined for nonhospitalized Medicare beneficiaries.

Status: The final report entitled "Trends in Patterns of Post-Hospital Service Use and Their Impact on Outcomes" has been received and is under review. The most important findings regarding service use for the period 1982 to 1986 include: reductions in the probability of hospital care, reductions in hospital length of stay, increases in home health service use for unmarried individuals coupled with decreases for married people. Researchers report that patient outcomes (mortality and hospital readmissions) were not degraded as a result of the hospital prospective payment system.

Outcome Measures for Assessment of Hospital Care

Project No.: 99-C-99169/5
Period: September 1988—December 1989
Funding: $ 70,134
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Paul W. Eggers, Ph.D.
Division of Beneficiary Studies
Mandate: Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)

Description: The awardee, under this cooperative agreement, advised the Health Care Financing Administration of the most fruitful directions to follow in conducting future research on outcome measures for hospital care. Potential outcome measures, other than mortality and rehospitalization, were explored. The analysis focused on three conditions—acute myocardial infarction (AMI), hip fracture, and breast cancer.

Status: An indepth literature review of clinical indicators was conducted by the University of Minnesota Research Center. A meeting of clinical experts was held on September 25, 1989, to obtain recommendations for future research. The panel of experts made the following general recommendations:

- Additional outcome measures should not be a priority.
- A greater need is for better quality diagnostic data on the Uniform Hospital Discharge Data Set.
- Priority should be given to further development of severity measures.
- It is highly unlikely that a generic functional status indicator that will serve the needs of such disparate diagnoses as AMI, hip fracture, and breast cancer can be developed.

The final report entitled "Outcome Measurement for the Assessment of Hospital Care" is available from the

National Technical Information Service, accession number PB91-227439.

Assessment and Use of Clinical Staging Systems

Project No.: 99-C-98489/9
Period: August 1991—July 1992
Funding: $ 125,000
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Harry L. Savitt, Ph.D.
Division of Beneficiary Studies

Description: For this project, researchers will generate a set of standards for development, testing, and application of clinical staging systems. They will review what is known about existing systems to describe and compare them for each of 6 to 10 diseases and draw conclusions concerning the extent to which existing systems can be used for various gaps in available knowledge and information concerning clinical staging systems. A meeting will be held to evaluate and critique the products produced.

Status: This project is in the early developmental stage.

Prospective Payment Beneficiary Impact Study

Funding: Intramural
Project Director: Paul W. Eggers, Ph.D.
Division of Beneficiary Studies
Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: The purpose of this study is to measure changes in hospitalization as a result of prospective payment that may affect Medicare beneficiaries.

Status: Data analyses have been performed and are included in the 1984 through 1988 Annual Reports to Congress on the *Impact of the Medicare Hospital Prospective Payment System*. Further analyses will be included in subsequent Reports to Congress. Findings from the study are:

- In 1984, discharges per 1,000 persons declined (by 4.1 percent) for the first time since the beginning of Medicare. The discharge rates declined in each of the succeeding years through 1987. From 1983 to 1987, the net decline in discharges per 1,000 was 20.8 percent.
- In 1984, average length of stay declined by 0.9 days, or 8.8 percent. Length of stay continued to decline in 1985, but at a greatly diminished rate, falling from 8.7 days to 8.4 days—a decrease of 3.9 percent. However, length of stay seems to have reached a plateau, remaining at 8.4 days in 1986 and actually increasing to 8.6 days in 1987. Since the beginning of the prospective payment system, the total decline in length of stay has been 10.0 percent.
- In 1984, the combination of a large decline in length of stay and the first-ever decline in discharges resulted in a 12.6-percent decline in the days-of-care rate. There were decreases in the total days-of-care rate in each of the years through 1987. The days-of-care rate for Medicare aged beneficiaries was 29 percent lower in 1987 than in 1983.
- Decreases in inpatient utilization were relatively consistent across age, sex, and race groups.

A National Program to Improve the Quality of Intensive Care Unit Services

Project No.: 18-C-99054/3
Period: January 1988—March 1991
Funding: $ 788,450 (HCFA funding)
Award: Cooperative Agreement
Awardee: George Washington University
Office of Sponsored Research
Rice Hall, 6th Floor
Washington, DC 20052
Project Officer: Alma B. McMillan
Division of Beneficiary Studies

Description: The project is jointly funded by the National Center for Health Services Research and Health Care Technology Assessment, the John A. Hartford Foundation, the Health Care Financing Administration, and Acute Physiology and Chronic Health Evaluation (APACHE) Systems, Inc. (a private corporation formed in part to support this research effort and to promote the distribution of APACHE-related research). The purpose of the study is to determine whether quality of communication and coordination among intensive care unit (ICU) nurses and physicians are factors that can be correlated with the ICU average severity-adjusted death rate. A long-term goal of this project is to develop managerial and organizational guidelines that can be used to improve quality of care in ICUs. A random sample of approximately 16,000 medical records of ICU patients from about 40 hospitals will be sampled for the years 1988 and 1989. These records will be linked with Medicare administrative data for the calculation of 30-day post-ICU admission mortality rates. In addition to APACHE II scores, project staff will collect information on the organization characteristics of the hospital, including measures of effectiveness in ICUs, communication and coordination within the units, and resolution of conflicts. These measures will then be tested for impact on APACHE severity-adjusted outcomes.

Status: This project is now in its final stage. All data collection activities have been completed; data files have been built from responses obtained from the various questionnaires; site visits to selected ICUs have been completed, and summaries of the interviews have been prepared. A draft report on analysis of the data has been submitted and reviewed. Comments on the draft report were given to the project investigators, and a final report was received in September 1991.

Interpreting Hospital Mortality Data: How Much Can Patient Severity and Quality of Care Explain?

Project No.: 99-C-98489/9
Period: August 1989—July 1992
Funding: $ 99,393
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: James C. Beebe
Division of Beneficiary Studies

Description: Under this project, RAND will perform the following four tasks relating to the Medicare Mortality Predictor System (MPS):

- Investigate the statistical properties of and develop a theoretically defensible standard error estimator for the MPS rate estimator.
- Develop a Bayesian estimator for hospital mortality rates.
- Further investigate the sample design used to estimate the MPS risk-adjustment equations.
- Estimate how much of the variance in hospital mortality rates is attributable to variation in severity versus variation in quality of care.

Status: A panel of surgical consultants was convened to develop a consensus on the useful measures of operative complications and morbidity. A final report is expected in spring 1992.

Evaluating Quality of Care for Hospitalized Patients

Project No.: 99-C-98526/1
Period: August 1989—November 1990
Funding: $ 100,000
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Gerald F. Riley
Division of Beneficiary Studies

Description: The Health Care Financing Administration (HCFA) convened expert panels to identify important adverse outcomes for eight common surgical procedures. Included as adverse outcomes were events such as hospital readmissions, infectious complications after surgery, and general complications. Although HCFA plans to compare adverse outcomes for these surgical conditions, it has not adjusted for severity of illness at admission. This project builds on Boston University's experience at its Health Care Research Unit in developing severity of illness models. Brandeis University developed equation-based severity models using common clinical information abstracted from charts on hospitalization to predict adverse surgical outcomes such as readmission, common surgical complications (including unplanned return to surgery), and evidence of post-surgery myocardial infarction. This work furthers HCFA's ability to compare the quality of surgical cases (using outcomes more sensitive than mortality) with adequate severity of illness adjustments.

Status: This project has been completed. A final report entitled "Predicting Postoperative Adverse Events of Common Surgical Procedures in the Medicare Population" was completed April 1, 1991. The report is available from the National Technical Information Service, accession number PB91-200592.

Evaluating Quality of Care for Surgical Patients: Using Diagnosis-Related Group and Quality of Care Data for Research on Hip Patients

Project No.: 99-C-98489/9
Period: October 1989—August 1991
Funding: $ 79,975
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Gerald F. Riley
Division of Beneficiary Studies

Description: The Health Care Financing Administration is developing a way to use data from the Medicare provider analysis and review (MedPAR) files to study adverse outcomes for eight major surgical procedures, two of which involve the treatment of broken hips. Medical record abstracts for 2,853 hip fracture patients will be examined and compared with their MedPAR records. The investigators will determine which characteristics present at the time of hospital admission are associated with adverse patient outcomes and the extent to which adverse outcomes are related to poor processes of care.

Status: A draft final report was submitted in August 1991 and is being reviewed. Because of numerous discrepancies between coded diagnoses in the MedPAR record and conditions identified from medical record abstracts, the focus of the study has changed to an analysis of the nature of and reasons for those discrepancies.

Implementing Findings on Volume and Quality

Project No.: 99-C-98526/1
Period: August 1991—July 1992
Funding: $ 115,181
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Gerald F. Riley
Division of Beneficiary Studies

Description: The purpose of this study is to provide a descriptive analysis of the distribution, by provider, of Medicare cases for selected procedures and services. Researchers will provide data on the feasibility of concentrating certain procedures among a limited number of hospitals. Interest in this "regionalization" of certain procedures follows from previous studies that indicate better patient outcomes are associated with hospitals that perform high volumes of the procedures. National statistics will provide information on the number of hospitals doing the procedures and the range

of volumes across these hospitals. Breakdowns by hospital characteristics will indicate whether there seems to be a low-volume problem for any particular type of hospital. Market level statistics on the distribution of procedures across hospitals will provide information on the extent to which regionalization may be feasible. Because any regionalization involves some reduction in access, it is important to document the magnitude of this effect. The distribution of surgeon volumes will also be studied for the State of Alabama. Linking surgeon and hospital volume data will permit the examination of the relationship between surgeon and hospital volumes. The primary source of data will be the Medicare provider analysis and review file records for hospital stays occurring in 1987 and 1990. These data will be merged with metropolitan statistical area identifiers, the area resource file, and an American Hospital Association survey. Data from all Part B physician claims for the State of Alabama will be used for the analysis of surgeon volumes. The study investigators will also identify alternative strategies for promoting regionalization.

Status: This project is in the early developmental stage.

Treatment of Peripheral Vascular Disease

Funding: Intramural
Project Director: Renee Mentnech
Division of Beneficiary Studies

Description: Decisions about the surgical management of peripheral vascular disease (PVD) attempt to balance preservation of limbs, on the one hand, and the need for recurrent surgical treatment of progressive gangrene, on the other. The ideal compromise between these two competing objectives is a single, minimally deforming surgical procedure. The need to perform a series of progressively more invasive procedures over a short period of time on the same patient can be interpreted as evidence of a surgical choice based on an inappropriately optimistic prediction of response. This study is designed to measure the frequency of multiple operations over short periods on the same patient as evidence of suboptimal surgical decisionmaking.

Status: A hierarchial model has been developed, and individuals have been identified who had a new peripheral vascular insufficiency episode during 1986. The sequence of events during these new episodes of PVD has been identified and linked.

Long-Term Care

New York State Integrated Quality Assurance System for Residential Health Care Facilities: The Next Step after Case-Mix Reimbursement

Project No.: 11-C-98925/2
Period: August 1986—October 1991
Funding: $ 304,687
Award: Cooperative Agreement
Awardee: New York State Department of Social Services
40 North Pearl Street
Albany, NY 12243
Project Officer: Marvin A. Feuerberg, Ph.D.
Division of Long-Term Care Experimentation

Description: The objectives of the New York State Quality Assurance System (NYQAS) are to link data from the case-mix reimbursement system for use in the quality assurance system and to integrate the quality assurance processes of survey and certification, inspection of care, and utilization review. The State implemented a case-mix payment system for residential health care facilities for which all patients are assessed at least biannually. The resulting data on patient characteristics are audited and entered on a client-specific data base that can be used to target quality assurance activities toward facilities that have:

- Staffing patterns that seem inappropriate to the needs of patients.
- Excessive numbers of patients with clinical outcomes that indicate possible deficiencies in the quality of care.
- Unexpected negative outcomes from one review to the next.

Researchers integrated external outcome standards, survey and certification, inspection of care, and utilization review activities into a single, patient-centered process. The use of the case-mix data base serves to focus reviewer energies on problem facilities. The ability to routinely track significant or potentially significant deteriorations in patient care triggers off-cycle surveys. Facilities identified as having few or no problems will be targeted for a longer interval between surveys.

Status: During the first and second years of the project, the State completed the NYQAS design. The State also designed a training program on the use of the new protocols and procedures for State surveyors. The training began in October 1988, and NYQAS was implemented in November 1988. Administrative waivers permit sampling of resident review (as opposed to a 100-percent review), a survey cycle that averages 12 months (as opposed to a cycle of 12 months for all homes), and the alignment of utilization review with case-mix assessment intervals. The project is expected to be completed and a final report to be submitted in fall 1991.

New York State Quality Assurance System Evaluation

Project No.: 500-87-0030
Period: October 1989—July 1992
Funding: $ 349,477
Award: Technical Support: Evaluation of Demonstrations
(See page 82)

Contractor: Abt Associates, Inc.
55 Wheeler Street
Cambridge, MA 02138-1168
Project Officer: Marvin A. Feuerberg, Ph.D.
Division of Long-Term Care Experimentation

Description: The objectives of the New York State Quality Assurance System (NYQAS) are to link data from the case-mix reimbursement system for use in the quality assurance system and to integrate the quality assurance processes of survey and certification, inspection of care, and utilization review. The purpose of the evaluation is to determine which aspects of NYQAS are effective and which are not, and why. Researchers hope that this information will improve the implementation and monitoring of The Multistate Nursing Home Case-Mix and Quality Demonstration, the nursing home reform provisions of the Omnibus Budget Reconciliation Act of 1987, and the surveillance of nursing homes in general. Consistent with these objectives, the evaluation will employ a variety of qualitative and quantitative methods to assess NYQAS' reliability and validity of problem identification, monitoring, and enforcement, and the impact of NYQAS on the quality of care.

Status: Several factors have delayed the implementation of this evaluation, including problems of access to the required data. The project has been extended to July 1992. At this point, the qualitative case study validity component of the evaluation is near completion.

Impact of the Prospective Payment System on the Quality of Long-Term Care in Nursing Homes and Home Health Agencies

Project No.: 17-C-98971/8
Period: August 1986—November 1989
Funding: $ 608,553 (Phase I)
$ 234,542 (Phase II)
Award: Cooperative Agreement
Awardee: University of Colorado
1355 South Colorado Boulevard, Suite 706
Denver, CO 80222
Project Officer: Phyllis A. Nagy (Phase II)
Division of Long-Term Care Experimentation

Description: For Phase I of this study, researchers examined patient-level process indicators of quality of care provided to skilled nursing facility (SNF) and home health patients before and after implementation of the Medicare inpatient hospital prospective payment system (PPS). They also assessed pre- and post-PPS differences in patient-care practices and outcomes as reported by physicians and nurses, and the number and types of acute care beds recently converted to SNF beds (transition beds). This study was expanded in September 1988 (Phase II) to conduct research mandated by the Medicare Catastrophic Coverage Act of 1988 relating to the quality of long-term care services in community-based and custodial settings, and the effects of the provision of long-term care services on reducing expenditures for acute health care services. Phase II included the development of recommendations for additional research in these areas.

Status: Findings from Phase I were incorporated into a July 1987 report entitled "Findings on Case Mix and Quality of Care in Nursing Homes and Home Health Agencies." This report is available from the National Technical Information Service (NTIS), accession number PB88-100623. Analyses of the pre- and post-PPS time periods indicated that the level of quality of care provided prior to the implementation of PPS has generally been maintained. Under Phase II, three reports are available from NTIS: "Future Research on the Quality of Long-Term Care Services in Community-Based and Custodial Settings," accession number PB91-242198; "State Survey of Community-Based Care Systems," accession number PB91-141416; and "Future Research on the Relationship Between Long-Term Care Services and Reduced Acute Care Expenditures," accession number PB91-138107.

A Study of Long-Term Care in Teaching and Nonteaching Nursing Homes

Project No.: 18-C-98417/8
Period: September 1983—September 1986
Funding: $ 808,176
Award: Cooperative Agreement
Awardee: University of Colorado
Health Sciences Center
4200 East 9th Avenue, C-421
Denver, CO 80262
Project Officer: Dennis M. Nugent
Division of Long-Term Care Experimentation

Description: The purpose of evaluating the Robert Wood Johnson Foundation's (RWJF) Teaching Nursing Home Program (TNHP) was to assess the impact of nursing school and nursing home affiliations on patient outcomes and costs of patient care. Eleven university-based schools of nursing were funded to establish clinical affiliations with one or two nursing homes. Objectives of the study included assessing the extent to which the TNHP approach reduces hospitalizations and emergency room use, examining whether the length of nursing home stays is reduced and discharges into independent living environments are increased, and determining the program's effect on the health status and functioning of the patient. In addition to utilization and patient impacts, a cost-benefit analysis was conducted. The evaluation of this program was sponsored jointly by the Health Care Financing Administration and RWJF. (RWJF funded the evaluation from October 1986 to December 1988.) A supplement to the study was funded in June 1986 to assess whether services provided to specific types of patients in teaching nursing homes differed from those provided in a group of comparison (nonteaching) nursing homes. Seven problem areas were profiled—urinary incontinence and urinary catheter, pressure sores,

terminal illness, confusion, falls, diabetes, and use of sedatives.

Status: The evaluation showed a decrease in hospitalization rates for patients in teaching nursing homes compared with all nursing home patients throughout the country. Differences in hospitalization rates were even greater after adjusting for case mix or risk factors. The decline was more pronounced for short-stay and Medicare patients. Patients in teaching nursing homes had better patient status outcomes and were less likely to experience functional problems with activities of daily living. They were also less likely to be catheterized, restrained, or heavily sedated. Nurse clinicians and nurses' aides were more involved in care planning in teaching nursing homes than were those in comparison nursing homes, which may have enhanced the establishment of preventive strategies. The final report entitled "The Teaching Nursing Home Experiment: Its Effects and Implications" will be sent to the National Technical Information Service.

The Multistate Nursing Home Case-Mix and Quality Demonstration

Project Nos.: Kansas, 11-C-99366/7
Maine, 11-C-99363/1
Mississippi, 11-C-99362/4
South Dakota, 11-C-99367/8
Period: June 1989—June 1995
Funding: $ 931,755
Award: Cooperative Agreements
Awardees: State Medicaid Agencies
Project Officer: Elizabeth S. Cornelius
Division of Long-Term Care Experimentation

Description: This project builds on past and current initiatives with case-mix payment and quality assurance. The 5-year demonstration will design, implement, and evaluate a combined Medicare and Medicaid system in four States—Kansas, Maine, Mississippi, and South Dakota. The purpose of the demonstration is to test a resident information system with variables for classifying residents into homogeneous resource utilization groups for equitable payment and for quality monitoring of outcomes adjusted for case mix. The new minimum data set plus (MDS+) for resident assessment will be used for resident care planning, payment classification, and quality monitoring systems. The project consists of three phases—systems development and design, systems implementation and monitoring, and evaluation. There will be 3 years of developmental work before the Medicare/Medicaid classification and payment system will be ready for implementation in the demonstration States.

Status: The project has conducted a field test of the minimum data set on 6,660 nursing home residents. The average direct-care staff time across the States is 115 minutes per day. A new Multistate Medicare/ Medicaid Payment Index (M^3PI) containing 44 groups has been created. The States implemented the MDS+ in fall 1990 with the approval of the Health Standards and Quality Bureau. In collaboration with The Circle, Inc., and the University of Wisconsin, the States are beginning data analysis of service utilization and outcomes. The demonstration States are scheduled to implement the new M^3PI payment system and quality monitoring information system in summer 1992.

Multistate Case-Mix Payment and Quality Demonstration

Project No.: 95-C-99540/2
Period: May 1990—April 1995
Funding: $ 661,613
Award: Cooperative Agreement
Awardee: New York State Department of Health
Room 1683 Corning Tower
Albany, NY 12237
Project Officer: Elizabeth S. Cornelius
Division of Long-Term Care Experimentation

Description: New York State will participate in The Multistate Nursing Home Case-Mix and Quality (NHCMQ) Demonstration presently in its development phase. The demonstration uses case-mix systems for both Medicare and Medicaid that are based on a common patient classification system. The objective of the demonstration is to test the feasibility and cost effectiveness of a case-mix payment system for nursing facility services under Medicare and Medicaid. The addition of New York to the demonstration enhances the Health Care Financing Administration's ability to project the results of the demonstration on a national basis. New York represents a heavily regulated, northern industrialized area with larger, high-cost nursing facilities that are medically sophisticated and highly skilled. Sixteen percent of the national Medicare skilled nursing facility days are incurred in New York State. New York is uniquely suited for inclusion in this demonstration because it has already implemented a complementary system for its Medicaid nursing facility payment program.

Status: In early 1991, project staff completed the minimum data set field test in 25 facilities on 993 residents. These data have been added to the data base analyzed to develop the new NHCMQ Medicare/ Medicaid classification system. The data have resulted in the addition of a very high rehabilitation group to the upper end of the classification. The State has begun analysis of cost data for use in the Medicare case-mix payment system.

Long-Term Care Case-Mix and Quality Technical Design Project

Project No.: 500-89-0046
Period: September 1989—September 1992
Funding: $ 2,077,594
Award: Contract

Contractor: The Circle, Inc.
8201 Greensboro Drive, Suite 600
McLean, VA 22102
Project Officer: Elizabeth S. Cornelius
Division of Long-Term Care Experimentation

Description: This 3-year contract will support the design and early implementation phase of The Multistate Nursing Home Case-Mix and Quality (NHCMQ) Demonstration. The demonstration combines the Medicare and Medicaid nursing home payment and quality monitoring system across several States—Kansas, Maine, Mississippi, and South Dakota. This project builds on past and current initiatives with nursing home case-mix payment and quality assurance in nursing homes. The purpose of the demonstration is to test a resident information system with variables for classifying residents into homogeneous resource utilization groups for equitable payment and for quality monitoring of process and outcomes adjusted for case mix. The project will have three phases:

- Systems design and development.
- Systems implementation and monitoring.
- Evaluation.

Status: The classification system to be used across the States for Medicare and Medicaid was completed in June 1991 by researchers from The University of Michigan and Rensselaer Polytechnic Institute. The resource utilization groups, version III (RUG-III) uses 44 groups to explain approximately 45 percent of the variance in nursing staff time and 52 percent of the costs across nursing, occupational therapy, physical therapy, speech pathology, transportation, and social work services. The RUG-III groups are split on clinical conditions including signs and symptoms of distress, type and intensity of service, and activities of daily living. The 27 groups at the top of the classification match the Medicare coverage criteria. A working paper entitled "Description of the Resource Utilization Group, Version III (RUG-III)," which describes the classification, has been developed. The common assessment tool, the minimum data set plus (MDS+), has been published and implemented as the State resident assessment instrument in the demonstration States: Feldman, J., and Boulter, C., eds.: *Minimum Data Set Plus (MDS+). Multistate Nursing Home Case Mix and Quality Demonstration Training Manual.* Natick, MA. Eliot Press, 1991. During the past year, approximately 100 quality indicators (QIs) on the MDS+ data were developed by the University of Wisconsin researchers. The QIs were reviewed for clinical meaningfulness by 60 health professionals representing about 15 disciplines working in long-term care. These QIs will be revised and will serve as the basis for analysis of the QIs to be used for the operational phase of the demonstration. The Medicare payment task group began work in July 1991, and the payment design should be completed in early spring 1992. The demonstration is expected to become operational in summer 1992.

Psychoactive Drug Use among Nursing Home Elderly

Project No.: 99-C-99169/5
Period: September 1989—May 1990
Funding: $ 97,600
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: J. Donald Sherwood
Division of Long-Term Care Experimentation

Description: For this study, researchers examined the extent of regular and "prn," or "as needed," psychoactive drug use among nursing home elderly and the possibility of appropriate and inappropriate use of such drugs in terms of the characteristics of nursing home residents and nursing homes. Researchers used existing, secondary-source data from two previous research studies for the analyses. The studies involved a retrospective review of the records of 8,000 randomly selected individuals residing in nursing homes from 1980 to 1987.

Status: Researchers found that:

- The level of use for each class of drug tested was the same among the residents cohort and the new admissions cohort. However, individuals normally did not receive more than one class of psychotropic drug.
- There was a considerable change in the number of new admissions and residents for whom drugs were either discontinued or initiated following entrance to nursing homes.
- Applying the criteria based on the guidelines for antipsychotic drugs and for unnecessary drugs, one-half of the neuroleptic users in both admissions and residents cohorts lacked a specific condition or diagnosis that would make such use eligible under these guidelines. Seventy-five percent of the antidepressant users had no documented diagnosis of depression.

These findings were reported in the following article: Garrard, J., Makris, L., Dunham, T. et al.: Evaluation of neuroleptic drug use by nursing home elderly under proposed Medicare and Medicaid regulations. *JAMA* 265(4):463-467, Jan. 1991. The final report entitled "Psychotropic Drug Use by Nursing Home Elderly" has been sent to the National Technical Information Service.

Development of Outcome-Based Quality Measures for Home Health Services

Project No.: 500-88-0054
Period: September 1988—December 1993
Funding: $ 1,965,389
Award: Contract
Contractor: Center for Health Policy Research
1355 South Colorado Boulevard
Denver, CO 80222

Project Officer: Tony Hausner, Ph.D.
Division of Long-Term Care Experimentation

Description: The purpose of this contract is to develop and test outcome-based measures or indicators of quality for Medicare home health services. The measures are to be reliable and valid for use in monitoring and comparing quality of home health care across agencies, recognizing possible confounding factors such as case mix. Colorado has developed a set of quality indicator groups that it hopes to test in this study. The contractor will consider a broad range of possible outcome measures including health and functional status measures. Project staff will test outcome measures that are linked to specific diagnostic conditions and/or services and will test broad-based measures that are not so linked. They will also test measures that are more precise in the information provided and others that are more practical and less costly to administer. The key criteria for the selection of measures include feasibility, reliability, validity, difficulty in "gaming" the measures, impact on quality, access, and cost and burden of data collection to the Health Care Financing Administration and home health agencies.

Status: The contractor has completed literature reviews, a concept paper, a design report, and an Office of Management and Budget reports clearance package. The contractor completed an extensive round of feasibility tests and submitted an interim report in May 1991. The contractor now is in the process of implementing the final phase of data collection from 40-45 home health agencies. The Robert Wood Johnson Foundation (RWJF) has awarded a grant to the Center for Health Policy Research which complements this contract. The focus of work under the RWJF grant will be on adult non-Medicare home care services and populations and will use clinical panels to identify quality measures.

The Use of Medicaid Reimbursement Data in the Nursing Home Quality Assurance Process

Project No.: 18-C-99256/5
Period: June 1988—August 1992
Funding: $ 487,556
Award: Cooperative Agreement
Awardee: Center for Health Systems Research and Analysis
University of Wisconsin-Madison
Room 300 Infirmary
1300 University Avenue
Madison, WI 53706
Project Officer: Elizabeth S. Cornelius
Division of Long-Term Care Experimentation

Description: The purposes of this project are to assess the feasibility of using Medicaid reimbursement data to target facilities and residents in the nursing home quality assurance survey process and to develop a set of quality of care indicators (QCIs) using resident assessment data. Medicaid reimbursement data on medication use, sentinel health event, and other indicators are being provided to surveyors in preparation for the field survey to help target facilities for more intensive review, identify specific areas of deficient care, and identify individual residents for more detailed review. The objectives of the project are to:

- Convert reimbursement data into specific QCIs.
- Identify the Federal regulations for which the use of QCIs has the greatest potential benefit.
- Develop and demonstrate in one State (Wisconsin) procedures for providing QCIs to survey staffs.
- Assess the potential for implementing the system in other States.
- Develop a set of quality indicators (QIs), using resident assessment information, sometimes in combination with claims data, that can be used in the survey process as part of The Multistate Nursing Home Case-Mix and Quality (NHCMQ) Demonstration.

Status: A program was implemented on December 1, 1990, in which a randomly assigned group of survey teams in two Wisconsin regions were provided information on 33 QCIs for each nursing facility prior to the survey. Surveyors used the QCI information in selecting residents for indepth review and in determining whether care deficiencies should be cited. The surveyors completed and returned a feedback report that documented the results of QCI residents' investigations. Through July 1991, QCIs were used in approximately 60 surveys, in addition to the 17 surveys in which they were used in a pilot study. Activities continue on the development of QIs for The Multistate NHCMQ Demonstration. Twelve areas of care (domains) have been identified and approximately 120 QIs were developed within these domains. The draft QIs were reviewed in July 1991 by a clinical work group consisting of more than 60 nurses, social workers, physicians, and other health care professionals, as well as case-mix States' project staff. Subsequent to the work group's suggestions, revisions and additions have been made bringing the total number of QIs to more than 150. A research work group review is planned for October 1991. Analyses of the NHCMQ data base will be conducted on the QIs in upcoming months.

Utility of Medicaid Claims Data for Deriving Nursing Home Quality Indicators

Project No.: 18-C-99388/9
Period: May 1990—April 1992
Funding: $ 302,311
Award: Cooperative Agreement
Awardee: SysteMetrics/McGraw-Hill
104 West Anapama Street
Santa Barbara, CA 93101
Project Officer: Marvin A. Feuerberg, Ph.D.
Division of Long-Term Care Experimentation

Description: The goal of this project is to investigate the usefulness of claims data from Medicaid and Medicare administrative record systems as sources of nursing

home patient treatment and outcome measures. The study will involve retrospective analysis of 1987 Medicaid and Medicare claims data and facility deficiency data from four States—California, Georgia, Michigan, and Tennessee. Currently, the only nationwide assessment of the quality of nursing homes consists of summaries of survey deficiencies. Previous research has indicated that deficiency data should be used with caution because the levels and types of citations vary widely both across and within States. The innovative element of this study is the identification, using routinely collected claims data, of questionable treatments and sentinel health events that are diagnosis codes for which hospitalization represents an adverse patient outcome of nursing home care. Researchers will examine the relationship among staffing levels, treatment patterns, and patient outcomes.

Status: The nursing home quality of care indicators have been reviewed and finalized by a technical expert panel, the data collection plan has been completed, and data analysis has been initiated.

Study of Home Health Care Quality and Cost under Capitated and Fee-for-Service Payment Systems

Project No.: 17-C-99051/8
Period: June 1987—June 1992
Funding: $ 1,683,773
Award: Cooperative Agreement
Awardee: Center for Health Policy Research
1355 South Colorado Boulevard
Denver, CO 80222
Project Officer: Margaret F. Coopey
Division of Long-Term Care Experimentation

Description: This project is designed to evaluate service utilization, quality, and cost of Medicare home health care provided under capitated and noncapitated (fee-for-service) payment systems. The Center for Health Policy Research will collect patient-level, case-mix, and service use data on a sample of approximately 4,000 patients from 44 agencies nationwide. A random and stratified patient sample will be drawn from both fee-for-service and capitated payment environments to assess and compare cost effectiveness of care, quality of care, and incentives to admit and provide care in the two payment environments. Secondary data analysis will also be completed on a sample of 10,000 Medicare beneficiaries using Medicare claims data to compare service use patterns among post-hospital Medicare patients discharged to skilled nursing facilities, home health care facilities, and the community, as well as Medicare home health patients admitted from the community.

Status: Primary data collection continues. An analysis of the secondary data has been completed, and a preliminary report has been received and is under review.

Home Care Quality Studies

Project No.: 500-89-0056
Period: October 1989—March 1993
Funding: $ 2,642,445
Award: Contract
Contractor: University of Minnesota
School of Public Health
Box 197, 420 Delaware Street, SE.
Minneapolis, MN 55455
Project Officer: Phyllis A. Nagy
Division of Long-Term Care Experimentation

Description: For this study, the contractor will carry out research on the following topics:

- Quality of long-term care services in community-based and custodial settings.
- Effectiveness of (and need for) State and Federal protections for Medicare beneficiaries that ensure adequate access to nonresidential long-term care services and protection of consumer rights.

The contractor will focus on in-home care, examining traditional home health services that are reimbursed by Medicare and Medicaid, as well as personal care and supportive services which have more recently been covered by Federal and State sources of funding. Primary project tasks include:

- Development of a taxonomy clarifying the various objectives and goals ascribed to home and community-based care from the various perspectives of consumers, payers, and care providers.
- Development and feasibility-testing of a survey design that would measure the extent of, need for, and adequacy of home care services for the elderly.
- A study of variations in labor supply and related effect(s) on home care quality, as well as factors that contribute to these variations.
- Recommendations to improve the quality of home and community-based services by identifying best practices and promising quality assurance approaches.

Status: The first project task (development of a taxonomy of goals and objectives) has been completed, and a report on this component has been received. The University of Minnesota is continuing work on each of the remaining primary tasks. The final report for this contract is expected in March 1993.

Other Studies

Medicaid Quality of Care Study

Project No.: 500-88-0044
Period: June 1988—June 1993
Funding: $ 4,168,875
Award: Contract
Contractor: SysteMetrics/McGraw-Hill
104 West Anapamu Street
Santa Barbara, CA 93101
Project Officer: M. Beth Benedict, Dr. P.H.
Division of Program Studies

Mandate: Omnibus Budget Reconciliation Act of 1986 (Public Law 99-509)

Description: Under Section 9432(c) of Public Law 99-509, the Department of Health and Human Services is required to report to Congress on a study that examines the appropriateness, necessity, and effectiveness of selected medical treatments and surgical procedures for Medicaid patients. The study must analyze the extent of variation that exists in the rate of performance of these treatments and procedures on Medicaid beneficiaries for small areas within States and among States. The study must also identify underutilized, medically necessary treatments and procedures for which failure to furnish could have an adverse effect on health status and for which the rate of use by Medicaid beneficiaries is significantly less than the rate for comparable, age-adjusted populations. The Medicare Catastrophic Coverage Act of 1988 subsequently modified the mandate so that the study is being conducted in two phases. The first phase includes an analysis of geographic variation in utilization. The second phase addresses the remaining issues of appropriateness, necessity, and effectiveness.

Status: The analysis of Phase I variations results is in review. Analysis plans for Phase II are being implemented, including a large-scale medical records study on quality of care.

Clinical Homogeneity of Severity of Illness Measures

Project No.: 99-C-98526/1
Period: August 1990—July 1992
Funding: $ 180,000
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Harry L. Savitt, Ph.D.
Division of Beneficiary Studies

Description: This project was designed to test whether abstract-based severity systems and those based on the Uniform Hospital Discharge Data Set define clinically homogeneous patient groups, and, if not, which types of cases are misclassified. Myocardial infarction cases will be studied using the diagnosis-related groups refined by Yale University, the Medicare mortality predictor system, and the medical illness severity grouping system. Physicians will review patient charts and will classify the degree of severity for each case. Comparisons will be made between the physicians' clinical evaluation of severity and data gathered from the computerized systems.

Status: Abstraction instruments have been developed and tested for the three systems. Cardiologists are reviewing 300 charts to determine if the charts were classified into the appropriate subgroup by each system. Analysis will determine homogeneity within subgroups, inter-observer differences, and performance of the three systems. A final report is expected in July 1992.

Medicare Provider Analysis and Review File Reliability Study

Funding: Intramural
Project Director: Lawrence E. Kucken
Division of Beneficiary Studies

Description: The purpose of this study is to provide information useful in assessing the reliability of data (primarily the Uniform Hospital Discharge Data Set) contained in the Medicare provider analysis and review (MedPAR) file. Data reliability estimates will be based on a comparison between MedPAR data and data generated by peer review organizations. The study will concentrate on data elements of interest for research studies where data reliability is critical; e.g., the *International Classification of Diseases, 9th Revision, Clinical Modification* codes for cardiac revascularization procedures. Staff will also isolate factors associated with data reliability problems such as provider and geographic characteristics.

Status: The analysis file has been constructed and data analysis is under way. An internal working draft has been prepared.

Physician and Ambulatory Care Payment Systems

Physician Utilization, Intensity, and Coding Issues

Multiple Hospital Visits

Project No.: 99-C-98489/9
Period: August 1990—December 1991
Funding: $ 61,440
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Benson L. Dutton
Division of Reimbursement and Economic Studies

Description: The purpose of this study is to examine:

- The relationship of the number and intensity of physicians' hospital visits to the characteristics of the hospital stay.
- How the number and intensity of physicians' hospital visits relate to the characteristics of the physician (e.g., specialty, regional practice patterns, participation and assignment status, and attending status).
- Trends over time in intensity and frequency of hospital visits by carrier and within specialties.

Status: The analysis for this project consists of two parts. The first and most substantial part of the analysis examined the determinants of the frequency and intensity of hospital visits. The second part of the analysis examined individual physician hospital visit patterns by linking provider data from the Part B

Medicare Annual Data procedure file with data from the Medicare provider analysis and review file. During March 1991, major findings for this study were presented in briefings at the Health Care Financing Administration. A draft report setting forth the findings of this project is expected in fall 1991.

Medical Visit Coding

Project No.: 99-C-98489/9
Period: August 1989—September 1991
Funding: $ 30,000
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Benson L. Dutton
Division of Reimbursement and Economic Studies

Description: This study examined the variation in intensity of medical visits and evaluated the impact of alternative ways for coding medical visits. The descriptive analysis examined the impact of five factors on variations in the coding of intensity level for medical visits at the carrier level. Factors examined were relative prices by carriers across visit codes, billing practices, specialty mix, frequency of visits, and individual physician practice patterns. In addition, RAND evaluated the potential impact of alternative coding schemes on Medicare payments and physicians, including measures of time and/or collapsed versions of the current coding system for medical visits.

Status: All empirical analyses and simulations have been completed. The results were presented in a briefing to the Health Care Financing Administration staff. RAND submitted a working draft paper in March 1991. A final report is expected in fall 1991.

New Patient Visit Codes

Project No.: 99-C-98526/1
Period: August 1990—July 1991
Funding: $ 102,260
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Benson L. Dutton
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: Physicians may choose among a large number of codes for medical visits. For a number of reasons (e.g., administrative simplicity and less opportunity for "gaming"), it may be preferable to have as few codes as possible in a physician payment system. This study provides a descriptive analysis of the current use of new patient visit codes. Average allowed charges and prevailing charges for new and established patient codes for the different levels of service are compared. Redistributive effects of eliminating the new patient code distinction are also estimated.

Status: This project has been completed, and a final report has been submitted for review and final revisions.

Group Volume/Intensity Standards Research

Project No.: 99-C-98526/1
Period: August 1991—July 1992
Funding: $ 172,909
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Sherry A. Terrell, Ph.D.
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: Using 1987-89 Part B Medicare Annual Data from provider and beneficiary files, this project will extend prior research on volume/intensity and beneficiary utilization patterns of group practices with an additional year of data. Researchers will provide information on how Medicare-qualified groups may be defined for separate Medicare volume performance standards (MVPS) on the basis of their specific volume/intensity performances rather than on the outcome of the national MVPS experience. The components for a simulation model to analyze outcomes under a voluntary MVPS will be developed, representatives from medical practices will be consulted about physician expectations and incentives, and the extent of administrative and data level of effort required to support voluntary MVPS will be assessed.

Status: This project is in the early developmental stage.

Methods for Tracking Volume/Intensity Change

Project No.: 99-C-98526/1
Period: August 1991—July 1992
Funding: $ 117,028
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Sherry A. Terrell, Ph.D.
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: For this project, researchers will devise two methods to detect trends in Medicare volumes and service intensity quickly and efficiently, using the most recent Medicare program data available, likely 1990. This two-tiered approach will be based on a 1-percent beneficiary level data file and a 5-percent episodes-of-care data file. Using a 1-percent sample of beneficiaries will allow quick summaries of which beneficiaries are

using what types of services at what costs and allow enrollee spending to be decomposed into its component parts. This level one beneficiary (trend) early warning data will point to areas that need investigation using the complementary level two episodes data. The episodes data will permit indepth evaluation of growth of service intensity by allowing control for case mix.

Status: This project is in the early developmental stage.

Study of Volume Performance Standard Rates of Increase by Geography, Specialty, and Type of Service

Funding: Intramural
Project Director: Sherry A. Terrell, Ph.D.
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: Section 6102(d)(3) of Public Law 101-239 requires a study of the feasibility of establishing separate volume performance standard rates of increase for physician services under Section 1848(f) of the Social Security Act. The Act establishes Medicare Volume Performance Standards rate of increases in combination with a Medicare fee schedule.

Status: The Secretary transmitted this report to Congress on December 27, 1990. The study found that present Health Care Financing Administration data systems could not support separate volume performance standard rates of increase differentiated by geographic area, or specialty and/or type of service. However, new data systems expected to be fully operational with the implementation of the Medicare fee schedule may support separate volume performance standards. The letter report entitled "Medicare Volume Performance Standard Rates of Increase for Physician Services Differentiated by Geographic Area, Specialty or Group of Specialties, and Type of Service" is available from the National Technical Information Service, accession number PB91-158329.

Policy Implications of Alternative Volume Performance Standards

Project No.: 99-C-98489/9
Period: August 1990—July 1991
Funding: $ 69,232
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Sherry A. Terrell, Ph.D.
Division of Reimbursement and Economic Studies

Description: The primary goal of this study is to provide a comprehensive analysis of the issues and implications of alternative volume performance standards. The specific objectives are to inventory alternative methods for establishing performance standards, including a review of the theoretical and empirical literature concerning the advantages and limitations of these alternatives, and to develop a framework for analyzing the policy implications of alternative performance standards.

Status: A draft final report has been received which describes the legislative history of Medicare volume performance standards and formulates policy choices along three dimensions: the risk pool, the scope and nature of the standard, and the application of the standard. The final report is expected by the end of 1991.

Considerations of Inappropriate Utilization and Access Adjustments of Medicare Volume Performance Standards

Project No.: 99-C-99168/3
Period: September 1990—April 1991
Funding: $ 39,855
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Lawrence E. Kucken
Division of Beneficiary Studies

Description: Among the factors the Secretary of Health and Human Services is required to consider in the annual recommendation for the rate of increase in the Medicare volume performance standards (MVPS) for physician services are evidence of inappropriate utilization and lack of access to necessary physician services. This project was based on a literature review aimed at developing a conceptual framework to assess objective information on these factors, how they might be measured, the availability of data bases to measure them, and how they might be incorporated into an MVPS recommendation. Utilization appropriateness based on consensus panels and geographic variation are described. Approaches to measuring access (structural and utilization measures) are discussed.

Status: The final report entitled "Analysis of Inappropriate Utilization and Lack of Access for the Purpose of Determining the Medicare Volume Performance Standards" has been completed and will be submitted to the National Technical Information Service. The following are among the conclusions presented in the report:

- Systematic and comprehensive measurement of inappropriate utilization is not feasible.
- Systematic and exhaustive quantification of access limitations is not attainable at this time.
- Monitoring utilization over time remains an important objective.

Analysis of Group-Specific Volume Performance Standards

Project No.: 99-C-98526/1
Period: August 1990—July 1991

Funding: $ 148,308
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Sherry A. Terrell, Ph.D.
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: Using the Part B Medicare Annual Data provider and beneficiary files, this project provided descriptive statistics on group-practice volumes and beneficiary utilization patterns. Such descriptive statistics will provide preliminary information on how Medicare volume performance standards (MVPS) might be defined for qualified groups and about how these groups' performances could be measured. For example, the analysis will consider the minimum size of a group.

Status: This project has been completed. Researchers examined the potential for separate volume performance standards for qualified physician volunteer organizations whose experience would be measured directly, rather than based on the experience of the national MVPS specified by the Omnibus Budget Reconciliation Act of 1989. Medicare provider and beneficiary data for 1987 and 1988 were used to explore models based on the historical volume and intensity performance for sample volunteering organizations. Nonenrollment models (i.e., patient management, practice management, and combined management models) and enrollment models were considered. Medicare physician reimbursements tend to be highly concentrated among a relatively small number of practices. Findings on practice size and patient volume stability led to the conclusion that a voluntary MVPS option might be most successful if first extended to multispecialty groups treating at least 1,400 Medicare beneficiaries annually. The final report, "An Analysis of Group-Specific Medicare Volume Performance Standards," is available from the National Technical Information Service, accession number PB91-236034.

Empirical Foundations of Medicare Volume Performance Standards

Project No.: 17-C-99473/3
Period: September 1989—September 1991
Funding: $ 449,419
Award: Cooperative Agreement
Awardee: The Urban Institute
Health Policy Center
2100 M Street, NW.
Washington, DC 20037
Project Officer: Sherry A. Terrell, Ph.D.
Division of Reimbursement and Economic Studies

Description: This project will provide an empirical basis for considering whether Medicare volume performance standards (MVPS) should be uniform across the country or should vary by geographic area. It will also provide detailed descriptive analyses of variation in the volume and rates of growth in Medicare physician services and expenditures from 1985 through 1989 at State, metropolitan statistical area, and Medicare pricing locality levels. Data on rates of growth will be developed for physician specialty and by type of service.

Status: This project is near completion. A number of new research tools were developed including a Fisher's Ideal chained price index based on Medicare-allowed charges and a new analytically meaningful taxonomy to classify Medicare types of services. Findings to date are that there was a rapid rate of growth in emergency room services and specialty-specific evaluation and management services, advanced imaging and sonography, and in the use of laboratory and other tests. Allowed charges for all physicians increased by 12.2 percent per year. Although there was ample evidence of upcoding from 1985 to 1988 for most specialties, the major growth in Medicare spending was attributed to specialties with access to control of new technologies. In addition, substantial geographic border-crossing for the use of Medicare services was identified. Border-crossing tends to be greater for high-technology services such as advanced imaging, cardiovascular surgery, and oncology procedures. This suggests the need to adjust the MVPS for services received outside of areas in which a beneficiary lives. The following final project reports are available from the National Technical Information Service:

- "Using a New Type-of-Service Classification System to Examine the Growth of Medicare Physician Expenditures, 1985-1988," accession number PB91-188599.
- "Growth in Medicare Physician Service by Specialty: Implication for Volume Performance Standards," accession number PB91-193730.

Two reports entitled "Geographic Border Crossing: Implications for Volume Performance Standards," and "Measuring Prices of Medicare Physician Services," are in review. Three additional reports are expected by the end of 1991.

Controlling Physician Expenditures in a Hospital Setting: Medical Staff Volume Performance Standards

Project No.: 17-C-99489/3
Period: September 1989—March 1992
Funding: $ 557,862
Award: Cooperative Agreement
Awardee: The Urban Institute
Health Policy Center
2100 M Street, NW.
Washington, DC 20037
Project Officer: Sherry A. Terrell, Ph.D.
Division of Reimbursement and Economic Studies

Description: The aim of this project is to study volume performance standards for hospital medical staffs that

would provide incentives for physicians to contain costs of services delivered in the hospital setting. Although this study draws on previous physician diagnosis-related groups (DRGs) research, it differs from earlier work by using a national data set and post-prospective payment system implementation data and by considering outpatient surgery charges as part of the payment bundle. A medical staff risk pool is considered small enough for physicians to have strong incentives to control costs and unnecessary utilization.

Status: A 1987 cross-sectional analytic file has been created and methodologically equivalent trend files are being created for 1986 and 1988. A number of technical papers were developed and a draft final Phase I report is being reviewed. The researchers developed two broad approaches to using the medical staff as a risk pool: the first focuses on expenditure levels, the second focuses on expenditure growth. Preliminary findings are that much of the difference in mean physician charges across medical staffs is accounted for by case mix. The preferred model would use a two-tier medical staff performance standard adjusting for admissions growth at the State level and adjusting for growth in intensity of services at the medical staff (hospital) level. A number of alternative relative physician DRG weights were calculated to examine various outlier and service window options. The final project report is expected in 1992.

Growth in Physician Services

Project No.: 500-89-0053
Period: September 1989—October 1990
Funding: $ 321,769
Award: Contract
Contractor: Actuarial Research Corporation
6928 Little River Turnpike
Annandale, VA 22003
Project Officer: Nancy T. McCall
Division of Reimbursement and Economic Studies

Description: The purpose of this contract was to study the growth in physician services from 1986 through 1988 and to identify significant physician expenditure patterns and trends. Areas specifically studied were national and local trends associated with high-volume office and hospital visits, surgical procedures, and diagnostic and laboratory tests. The Part B Medicare Annual Data procedure files for 1986-88 were used as the primary data bases for the analyses.

Status: This project has been completed. A final report entitled "Physician Studies: Growth in Physician Services" was received and accepted in the Office of Research and Demonstrations and is being sent to the National Technical Information Service.

Out-of-Pocket Costs of Medicare Beneficiaries for Physician Services

Funding: Intramural
Project Director: Sherry A. Terrell, Ph.D.
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)

Description: Section 4056(c)(3) of Public Law 100-203 directs the Secretary of Health and Human Services to report to Congress on Medicare beneficiary liability and expenditures, including out-of-pocket costs, and the extent to which physicians collect such beneficiary liabilities, including unassigned claims (balance billings) and the required coinsurance.

Status: The Secretary transmitted this report to Congress on November 20, 1990. Beneficiary liability protections have been successful in both increasing assignment and reducing balance billing costs. With the new statutory limits on balance billing, the percent of beneficiaries with large physician services liabilities should decline significantly. This letter report entitled "Out-of-Pocket Costs of Medicare Beneficiaries for Physician Services" is available from the National Technical Information Service, accession number PB91-164202.

Concurrent Care during Surgery

Project No.: 99-C-98526/1
Period: August 1989—July 1991
Funding: $ 76,567
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Michael Borowitz, M.D.
Division of Reimbursement and Economic Studies

Description: This project is designed to investigate the appropriateness of inpatient physician consultations and concurrent care under Medicare. The investigators will isolate 5-10 medical and surgical diagnosis-related groups with high rates of consultation and concurrent care from which clinically coherent clusters of diagnoses and services will be defined. From these clusters, they will examine consultation patterns associated with diagnoses. In addition, the investigators will develop alternative criteria for evaluating the appropriateness of consultation and concurrent care. The study will be an initial step toward developing a screening procedure for isolating inappropriate cases of consultation and concurrent care.

Status: This project is near completion. A final report is expected in October 1991.

Concurrent Care during Surgical Admissions

Project No.: 99-C-98489/9
Period: August 1989—July 1991
Funding: $ 25,000
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center (See page 78)
Project Officer: Benson L. Dutton
Division of Reimbursement and Economic Studies

Description: The three major objectives of this project were to provide descriptive statistics documenting variations in the number of visits and consultations by nonattending physicians (i.e., other than the attending surgeon), by hospital group, and by carrier for Medicare surgical admissions; examine the effect of concurrent conditions on the number of visits and consultations by nonattending physicians; and identify and determine the frequency of patterns of concurrent care that may be clinically inappropriate.

Status: This project has been completed, and a working draft of the final report was submitted in May 1991. RAND will be publishing it as a RAND report entitled "Changes in Follow-up Care for Medicare Surgical Patients Under PPS."

Billing Patterns for Critical-Care Physician Services

Project No.: 99-C-99168/3
Period: August 1989—October 1991
Funding: $ 99,559
Award: Cooperative Agreement
Awardee: Project HOPE Research Center (See page 80)
Project Officer: William Buczko, Ph.D.
Division of Reimbursement and Economic Studies

Description: The objective of this project is to evaluate the potential for bundling payments for critical-care physician services under Medicare into more inclusive payment packages. Critical-care physician services are provided in coronary care, intensive care, or other emergency care units of hospitals. An analysis of physician billing patterns for critical-care services and an examination of the extent of variation in utilization and costs will be performed. These analyses will be used to evaluate the potential for bundling payments for these services.

Status: Linked data bases have been developed, and data analysis has been completed. The final report is in progress and is expected late 1991.

Physician Practice Patterns

Project No.: 99-C-98489/9
Period: August 1989—October 1991
Funding: $ 100,000
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center (See page 78)
Project Officer: Benson L. Dutton
Division of Reimbursement and Economic Studies

Description: The purpose of this study is to explore the utility of constructing a provider-level analysis file that combines information from the provider-level Part B Medicare Annual Data (BMAD) file with information about hospitalizations from the Medicare provider analysis and review (MedPAR) file. To determine the utility of the resulting linked files, this project will include three areas of analysis in which individual physician practice patterns will be studied. The three areas relate to the role of physicians in creating costly cases, the effect of national global fee standards on the reimbursement of individual surgeons, and the practice of billing for assistants at surgery by primary providers.

Status: Analysis files for each task in this project are being created. The 100-percent MedPAR file for calendar year 1986 is being linked to the BMAD file. Preliminary findings from the assistant-at-surgery task were presented to the Health Care Financing Administration staff at a briefing in spring 1991. Results from the analysis of global fees are included in a working draft. The analysis of costly cases along with the findings from the other tasks will be incorporated in the final report, expected in fall 1991.

Growth in Physician Services and Utilization, Diffusion, and Substitution of High-Technology Procedures

Project No.: 500-89-0050
Period: September 1989—June 1991
Funding: $ 235,096
Award: Contract
Contractor: Health Economics Research, Inc. (HERI)
300 Fifth Avenue, 6th Floor
Waltham, MA 02154
Project Officer: J. Daniel Babish
Division of Beneficiary Studies

Description: The purpose of this contract was to document trends in utilization and substitution of six high-technology procedures using the Part B Medicare Annual Data files for 1985-89 and to conduct an analysis of diffusion of these high-technology procedures by using a multistate 100-percent claims data base. The six technologies studied were coronary artery bypass grafts, percutaneous transluminal coronary angioplasty, computerized axial tomography scan, magnetic resonance imaging, surgical kidney stone removal, and extracorporeal shock wave lithotripsy.

Status: The project has been completed. A final report entitled "Utilization, Diffusion, and Substitution of High Technology Procedures" was received in May 1990. It describes the growth in utilization and Medicare spending for the six technologies studied. This report is available from the National Technical Information Service, accession number PB91-200774.

Beneficiary Use of Services over Time

Project No.: 99-C-98526/1
Period: August 1990—October 1991
Funding: $ 99,160
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Benson L. Dutton
Division of Reimbursement and Economic Studies

Description: This project examines changes in the patterns of Part B spending over time at the individual beneficiary level, including not only users of physician services but nonusers as well. In particular, this project decomposes spending growth into its major components (i.e., user rates, services per user, and price per service) and compares rates of changes in these components for beneficiaries of varying characteristics. This project also examines changes in the composition of spending on physician services, such as the extent to which services are being provided in offices and hospital outpatient departments versus other settings.

Status: File creation for the years 1985-89 has been completed. Data were obtained and merged for Part A inpatient and Part A outpatient reimbursements. Preliminary analyses of enrollee spending that required data cleaning, development, and reclassification have been completed. A final report is expected in fall 1991.

Analysis of the Impact of Release of Medicare Carrier Prepayment Medical Review Screens on Physician Billings

Project No.: 99-C-99169/5
Period: June 1991—July 1992
Funding: $ 107,094
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: William J. Sobaski
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: The purpose of the study is to determine whether physician billing practices for Medicare services will be affected if physicians know what factors are used to trigger medical review of claims. The Bureau of Program Operations has designed the demonstration project being conducted by Medicare carriers in 12 States. The carriers will provide physicians with the parameters used by Medicare to screen physician bills and determine which claims need further review before payment is made. Ordinarily, this information is not disclosed. This task will perform analyses of data from the year prior to the experiment and of each quarter during the experiment.

Status: Programming specifications and record layouts for data to be analyzed have been completed. The initial analytic report of data for the year prior to the experiment is expected in December 1991.

Dialysis Codes and Billing Patterns

Project No.: 99-C-98489/9
Period: August 1990—October 1991
Funding: $ 98,696
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Joel W. Greer, Ph.D.
Division of Beneficiary Studies

Description: The project is an analysis of Medicare payments for dialysis of hospitalized patients under various coding schemes in the HCFA Common Procedure Coding System (HCPCS). The goal is to determine the impact of the changes in the HCPCS codes in 1987 and 1988.

Status: The researchers have uploaded and run 3 years of Part B Medicare Annual Data bills (36 reels of tape). RAND has spent significant time organizing data files and correcting problems with their computer system and with the data. Preliminary results are out of line with expectations. Physicians continued to use local HCPCS codes after the date for changeover to national codes. After the switch to national codes, variation in payment rates among physicians appears to have increased. Analyses of the other topics are proceeding. The project is in the analysis stage.

Psychiatric Codes and Billing Patterns

Project No.: 99-C-98168/3
Period: August 1991—July 1992
Funding: $ 74,866
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Benson L. Dutton
Division of Reimbursement and Economic Studies

Description: The purpose of this study is to provide a thorough description of billing patterns to the Medicare program for psychiatric services by carrier, specialty, type of practitioner, and region. In addition, researchers will investigate the billing of nonpsychiatric services by psychiatrists and conduct a descriptive analysis of psychiatric services billed, by beneficiary characteristics. This analysis will describe the overall growth rate of volume, submitted charges, and allowed Medicare payments for both psychiatric services and nonpsychiatric services by type of practitioner, carrier, and beneficiary from 1987 through 1990. The primary source of data will be the Health Care Financing Administration's Part B Medicare Annual Data files.

Status: This project is in the early developmental stage.

An Analysis of Vision Care Services

Project No.: 99-C-98168/3
Period: August 1991—July 1992
Funding: $ 123,229
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Benson L. Dutton
Division of Reimbursement and Economic Studies

Description: The purpose of this study is to provide a thorough description of Medicare claims related to vision care services submitted by vision care providers. Services to be examined include all levels of visits, diagnostic and therapeutic vision care procedures, eye surgeries, recently introduced vision care services, and related supplies. The range and mix of services provided by different specialties will be analyzed according to a variety of beneficiary, provider, and market characteristics. In addition, researchers will investigate the extent to which duplicate services might be provided by ophthalmologists and optometrists as well as the extent of billing concurrently for diagnostic and therapeutic services and visits.

Status: This project is in the early developmental stage.

Physician Pricing Issues

Analysis of 1988 Physicians' Practice Costs and Income Survey Equipment Supplement

Project No.: 99-C-98526/1
Period: September 1990—August 1991
Funding: $ 32,204 (Phase I)
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Nancy T. McCall
Division of Reimbursement and Economic Studies

Description: The analysis of the 1988 Physicians' Practice Costs and Income Survey (PPCIS) Equipment Supplement will be performed in two phases. During Phase I, three research efforts were undertaken. First, the equipment and laboratory section of the 1988 PPCIS public use data tape and code book was systematically reviewed for quality and completeness of data. Second, data cleaning was performed to improve the completeness and validity of the data reported. Data cleaning efforts included coding of open-ended questions, assessment of outliers, evaluation of reserve codes, and review of verbatim comments. Third, an assessment of the quality of the data was performed focusing on item nonresponse rates, samples sizes, and comparability of the data with other sources. During Phase II, descriptive and multivariate analyses will be performed based on these data.

Status: Phase I of the project has been completed. A Phase I report was received in the Office of Research and Demonstrations in August 1991. A funding decision regarding Phase II is pending.

Allocating Practice Costs: Conceptual Issues

Project No.: 99-C-99169/5
Period: August 1990—September 1991
Funding: $ 51,611
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Edgar A. Peden, Ph.D.
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: The purpose of this task is to explore alternative methods for allocating practice costs across procedures. It examines the accounting method currently being developed by the Physician Payment Review Commission and will compare this with other methods suggested in the accounting and economics literature. As might be expected, the choice of method will depend in part on the objectives posited for the fee schedule. The two primary candidates to be considered are incentive neutrality (to providers) and equity (across providers). However, other objectives—such as cost containment, encouragement of certain types of procedures and discouragement of others, and long-run allocation of physician manpower across specialties—will also be considered.

Status: Researchers have examined the overhead allocation problem in terms of accounting methods and cost function analyses. They went on to look at pricing criteria in terms of a game-theoretic/axiomatic approach to pricing (Aumann-Shapley pricing) to ensure "fairness" and the efficiency criteria seen in "Ramsey pricing" principles. Minnesota concludes that if the policy objective is to maximize benefits net of costs in physician markets, Ramsey-type prices may be the best policy. Findings indicate that the various proposed methods of allocation of practice costs should be examined in light of these criteria. A draft final report has been received, and a final report is expected in fall 1991. This project will be followed by a new project on empirical work on different pricing schemes (starting August 1991).

Allocating Practice Costs: Simulations and Other Empirical Work

Project No.: 99-C-99169/5
Period: August 1991—July 1992
Funding: $ 101,383
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)

Project Officer: Edgar A. Peden, Ph.D.
Division of Reimbursement and Economic Studies

Description: This project is a followup to project number 99-C-99169/5, Allocating Practice Costs: Conceptual Issues, period August 1990—September 1991; awardee, University of Minnesota Research Center. It will simulate the incentive effects of at least four different allocation schemes (the current law method, a method proposed by the Physician Payment Review Commission (PPRC); a method that allocates overhead based on total cost, practice cost plus the implicit value of physician time; and the Ramsey method) in order to estimate their effects on practice incomes, relative utilization of different services, as well as overall costs. The study will also include econometric estimates of the marginal practice costs of specific services, such as hospital visits, as well as the effect of malpractice risk on cost. The report will include a summary section assessing the current law and PPRC methodologies, noting their strengths and weaknesses as well as those areas best suited for revision. The final product of this study will be a policy analysis of PPRC methods for incorporating practice costs (direct and overhead) into Medicare physician pricing.

Status: This project is in the early developmental stage.

Analysis of Medicare Customary Charge Distributions

Project No.: 17-C-99229/3
Period: June 1988—September 1991
Funding: $ 877,180
Award: Cooperative Agreement
Awardee: HK Research Corporation
21 Governor's Court
Baltimore, MD 21207
Project Officer: Benson L. Dutton
Division of Reimbursement and Economic Studies

Description: The goals of this project were to test the feasibility of effectively and efficiently acquiring physician pricing data on customary charges. In the initial phase, data files containing customary, prevailing, and reasonable charge (CPR) pricing and provider identification information were obtained directly from Part B carriers. The second phase entailed acquiring additional data files on Part B claims experience for the original study States. The third phase expanded the study to include pricing and claims data from additional States. The final phase involved simulations of the aggregate and redistributive effects of implementing the Medicare fee schedule in 1992 and acquiring and validating updated carrier CPR pricing files.

Status: This project has been completed, and a final report was received in September 1991.

A National Study of Resource-Based Relative Value Scales for Physician Services

Project No.: 17-C-98795/1
Period: September 1985—December 1991
Funding: $ 6,377,654
Award: Cooperative Agreement
Awardee: President and Fellows of Harvard College
Harvard School of Public Health
1350 Massachusetts Avenue
Holyoke Center, 4th Floor
Cambridge, MA 02138
Project Officer: Jesse M. Levy, Ph.D.
Division of Reimbursement and Economic Studies
Mandates: Consolidated Omnibus Budget Reconciliation Act of 1985
(Public Law 99-272)
Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)
Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)

Description: The Phase I study of this cooperative agreement developed a national resource-based relative value scale and presented results for physician services in 18 specialties. Resource-based relative values are hypothesized to be a function of physician work before, during, and after the service; of specialty-specific relative practice costs; and of specialty-specific relative opportunity costs. Physicians were surveyed to determine the amount of work expended during the performance of 409 services and procedures. Weighted least squares was employed to make work across specialties comparable. Extrapolation techniques were used to generate relative values for additional nonsurveyed services in the studied specialties. The Phase I study showed a large variation in resource requirements both within and among specialties. The methodology and results were subjected to review by experts in various fields. Phase II of the cooperative agreement extends the study to 15 additional specialties and subspecialties and refines and revises the study methodology. Phase III will further refine the study.

Status: The Phase I study of the cooperative agreement has been completed. The final report is available in several volumes plus data tapes from the National Technical Information Service:

- Volume I. Executive summary, accession number PB89-101828.
- Volume II. Data description and analysis, accession number PB89-101836.
- Volume III. Results and conclusions for surveyed procedures, accession number PB89-101844.
- Volume IV. Copies of surveys and other information, accession number PB89-101851.
- Volume IVA. Visit and consult methodology and results, accession number PB89-164412.

- Volume V. Documentation for the data tape, accession number PB89-101869.
- Volume VI. Final values and components, accession number PB89-164420.
- Survey data tape (including Volumes IV and V documentation), accession number PB89-101810.
- Phase I final values data tape, accession number PB89-164404.

Phase II has expanded the scope of the study to include cardiology, emergency medicine, gastroenterology, hematology and oncology, infectious disease, nephrology, neurology, neurosurgery, nuclear medicine, osteopathic medicine, physical and rehabilitative medicine, plastic surgery, pulmonary medicine, and therapeutic medicine. This phase was completed in November 1990.

The Phase II final report "A National Study of Resource-Based Relative Value Scales for Physician Services" is available in several volumes from the National Technical Information Service:

- Volume I. Executive Summary, accession number PB91-172189.
- Volume II. Final Report, accession number PB91-172197.
- Volume III. Appendices, accession number PB91-172205.
- Volume IV. Data Files Documentation, accession number PB91-172213.
- Volume V. Data Files, paper copy, accession number PB91-172221.
- Phase II Computer Product, accession number PB91-507251.
- The full five-volume set, accession number PB91-172171.

Phase III will use a small group process to refine estimates for codes that were extrapolated in Phases I and II.

Technical Support for Medicare Fee Schedule Notice of Proposed Rule Making

Project No.: 500-91-0062
Period: August 1991—October 1991
Funding: $ 159,047
Award: Contract
Contractor: President and Fellows of Harvard College
Harvard School of Public Health
1350 Massachusetts Avenue
Holyoke Center, 4th Floor
Cambridge, MA 02138
Project Officer: Jesse M. Levy, Ph.D.
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: The contractor will provide technical assistance to the Health Care Financing Administration in developing responses to comments and questions related to the Notice of Proposed Rulemaking process for the Medicare fee schedule and focusing specifically on the resource-based relative value scale relative work values previously developed by Harvard under a cooperative agreement.

Status: This project is in the initial stage.

A Comparison of Medicare and Canadian Physician Fee Schedules

Project No.: 99-C-98526/1
Period: August 1991—July 1992
Funding: $ 80,000
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: William J. Sobaski
Division of Reimbursement and Economic Studies

Description: This project will compare Canadian provincial fee schedules and the Medicare fee schedule in terms of the structure of schedules and the levels of fees. The researchers, Pete Welch and Steve Zuckerman of The Urban Institute, Washington, D.C., assert that such a comparison may provide guidance regarding incremental improvement to the structure of the Medicare fee schedule over the next 3 to 5 years.

Status: This project is in the early developmental stage.

Analysis of Group-Based Methods for Medicare Fee Schedule Refinement

Project No.: 99-C-98489/9
Period: August 1990—July 1991
Funding: $ 97,263
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Michael Borowitz, M.D.
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: For this study, alternative group-based methods of policy decisionmaking were evaluated to ascertain the costs and benefits of each as a tool for determining new or revised Medicare fees based on a resource-based relative value scale. The group-based methods were evaluated and compared in terms of:

- Ease and cost of implementation.
- Applicability to different medical procedures and specialties.
- Extent to which different interested parties influence the decision.
- Likely winners and losers among the stakeholders.

Status: This study reviews the resource-based relative value scale developed by William Hsiao and his colleagues at Harvard. It examines the linking process,

pre- and post-source work, and the Phase III methodology. In addition, it examines the use of structured group processes to develop relative values for physician work. The study has been completed. A final report has been received and is under review.

Refining the Relative Work Component of the Medicare Fee Schedule

Project No.: 99-C-98489/9
Period: August 1991—July 1992
Funding: $ 99,959
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Michael Borowitz, M.D.
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: For this project, researchers are pilot-testing and assessing a number of alternatives for estimating the relative work component for physician services and integrating the results into the existing relative work scale. Results of this study will be considered when refining the relative value scale for the Medicare fee schedule.

Status: This project is in the early developmental stage.

Medicare Fee Schedule: Report to Congress

Project No.: 500-89-0054
Period: September 1991—August 1992
Funding: $ 215,719
Award: Contract
Contractor: The Urban Institute
Health Policy Center
2100 M Street, NW.
Washington, DC 20037
Project Officer: William J. Sobaski
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: The contractor will perform research on three issues of interest concerning the implementation of the Medicare fee schedule:

- Variations in Medicare reasonable charges that are not attributable to physician practice cost differences.
- The extent to which geographic practice cost indexes reflect variations in practice expenses.
- The impact of transition to the Medicare fee schedule on access in areas that experience a disproportionately large reduction in payments.

Findings will be incorporated into a Report to Congress that is due July 1, 1992.

Status: This project is in the early developmental stage.

Geographic and Temporal Variations in Medicare Physician Expenditures

Project No.: 17-C-98999/1
Period: June 1987—December 1991
Funding: $ 1,972,198
Award: Cooperative Agreement
Awardee: Center for Health Economics Research
300 Fifth Avenue, 6th Floor
Waltham, MA 02154
Project Officer: Nancy T. McCall
Division of Reimbursement and Economic Studies

Description: This project addresses a broad range of physician payment issues. A data base has been constructed using merged Part A and Part B claims for 1985-88 from 10 States that represent all 9 census regions and 18 percent of all Medicare beneficiaries. Examples of issues being analyzed using these files include overpriced surgical and anesthesia fees, decomposition of Part B expenditures into price and quantity components, effect of competition on price and quantity variation, variation in assignment rates and participation, inpatient and outpatient practice patterns and substitutions over time, incentives provided by Medicare's at-risk payment rates, trends in spending at the diagnosis-related group admission level, and alternative payment systems for hospital medical staffs.

Status: Carrier claims data for 1985-88 have been received for all States and analytic files have been constructed. The following reports are available from the National Technical Information Service:

- "Geographic Variation in Surgical Fees" (a summary of findings for six surgical fees for 1986), accession number PB90-122466.
- "Impact of Alternative Medicare Fee Schedule on Physicians" (a special report based on an analysis of a sample of 1986 national Part B data), accession number PB90-225855.
- "Geographic Variation in Anesthesiologists' Fees" (data based on 1986 Medicare Part B claims prior to implementation of a uniform relative value guide and elimination of modifiers), accession number PB90-222191.
- "Trends in Inpatient Use by the Elderly and Other Adults for Selected Procedures: 1982-1987" (National Hospital Discharge Survey data are used to determine the extent to which increases in the volume of physician services provided are a phenomenon of non-Medicare patients), accession number PB90-225848.

The following papers have been received by the Office of Research and Demonstrations:

- "Area Variation in Physician Spending: Implications for Volume Performance Standards."
- "Urban-Rural Differences in Physician Spending: Implications for the Medicare Fee Schedule."

Survey of State Regulation of Physician Office Medical Equipment

Project No.: 99-C-99168/3
Period: August 1990—July 1992
Funding: $ 66,468
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Alvin L. Freedman
Division of Reimbursement and Economic Studies

Description: This project will determine the nature and scope of State regulation of physician office medical equipment other than laboratory equipment. The analysis will cover selected States, some that regulate various types of physician office equipment, others that do not regulate them. The analysis will examine the extensiveness of such regulation, whether equipment is inspected for general health and safety reasons, and whether the equipment is tested for accuracy (and the frequency with which accuracy checks are conducted). The analysis will focus on the types of physician office medical equipment that produce high-volume Medicare tests, including radiology equipment and physiological testing equipment.

Status: Researchers have examined the relevant State statutes and regulations and have determined that because of wide variations in the structure and content of State administrative codes and regulations, a survey of State authorities is necessary to collect the appropriate data. A one-time data collection survey instrument has been developed for this purpose. The results will provide descriptive information on the existence and nature of State regulations of nonlaboratory medical equipment in physician office settings.

Refining the Geographic Practice Cost Index: Implications for Urban and Rural Areas

Project No.: 17-C-99222/3
Period: June 1988—September 1991
Funding: $ 338,831
Award: Cooperative Agreement
Awardee: The Urban Institute
Health Policy Center
2100 M Street, NW.
Washington, DC 20037
Project Officer: Sherry A. Terrell, Ph.D.
Division of Reimbursement and Economic Studies
Mandates: Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)
Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)

Description: For this study, researchers refined the Medicare geographic practice cost indexes (GPCI) that will be used to adjust physicians' fees under the Medicare fee schedule beginning January 1, 1992, for the justifiable geographic differences in operating a medical practice.

Status: This project has been completed. The basic structure of the indexes, a Laspeyres input price index, was retained. Sampling error was substantially reduced by using earnings data from a 20-percent sample of the 1980 Census. The malpractice GPCI was revised to adjust for specific mandatory State Patient Compensation Fund contributions, data were adjusted to reflect the more prevalent $1 million/$3 million malpractice mature paid claims coverage limits, and a technical mapping error was corrected. The indexes were then recalculated for metropolitan statistical areas and rural areas of States, as well as by States and the Medicare pricing localities. A related article, "Cost of Practice and Geographic Variation in Medicare Fees," was published in *Health Affairs*, 8(3):117-128, Fall 1989. Two related project publications entitled "Does Cost of Practice Explain Geographic Differences in Medicare Fees?" and "Growth in Medicare Expenditures, 1983-1985: Was PPS a Factor?" are available from The Urban Institute Publications Office, Washington, D.C. In addition, a study of Medicare pricing localities was completed with recommendations to reconfigure current Medicare pricing areas on population density bases. These pricing area alternatives were also compared with the locality recommendations of the Physician Payment Review Commission. Several final project reports and computer products are available from the National Technical Information Service:

- "The Geographic Medicare Economic Index: Alternative Approaches: June 1989," accession number PB89-216592.
- "The Geographic Medicare Economic Index: Alternative Approaches: Supplement to the June 1989 Report," accession number PB91-113506.
- "The Geographic Medicare Economic Index: Alternative Approaches: Supplement to the June 1989 Report," paper copy of the data, accession number PB91-176008.
- "The Geographic Medicare Economic Index: Alternative Approaches: Supplement to the June 1989 Report," data diskette, accession number PB91-507426.
- "Refining the Malpractice Geographic Practice Cost Index: February 1991," accession number PB91-155218.
- "Refining the Malpractice Geographic Practice Cost Index: February 1991," 5¼" data diskette, accession number PB91-506899; or 3½" data diskette, accession number PB91-507491.
- "Geographic Payment Areas for the Medicare Fee Schedule: Alternative Approaches," accession number PB91-201046.
- "An Assessment of the Physician Payment Review Commission's Proposed Geographic Areas for the Medicare Fee Schedule," accession number PB91-200766.

The above Medicare Geographic Practice Cost Indexes were published as Addendum C in the *Federal Register*, Notice of Proposed Rule Making. Vol. 56, No. 108, 25966-25973, June 5, 1991.

Statistical Properties of Physician Practice Cost Surveys

Project No.: 99-C-99168/3
Period: September 1990—September 1991
Funding: $ 67,718
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Nancy T. McCall
Division of Reimbursement and Economic Studies

Description: The purpose of the project was twofold: to perform a systematic review of the 1988 Physicians' Practice Cost and Income Survey public use data tape and the accompanying public use code book; and to analyze the statistical properties of selected national physician surveys. The first analysis assessed the accuracy and usability of the data for the conduction of analyses. The latter analysis was designed to answer the question: What should the Health Care Financing Administration do to meet data needs for the Medicare Economic Index, geographic practice cost index, and physician practice research?

Status: The project is near completion. A final report is expected in the Office of Research and Demonstrations in October 1991.

Integrating Results of Physician Practice Cost Surveys

Project No.: 99-C-98526/1
Period: August 1991—July 1992
Funding: $ 80,000
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Nancy T. McCall
Division of Reimbursement and Economic Studies

Description: For this project, researchers will explore a variety of options for meeting the Health Care Financing Administration's (HCFA) current and future physician practice cost data needs. The study has four objectives:

- Assess data needs related to physician payment research.
- Identify and inventory existing data sources that could be used to meet current and future data needs.
- Develop strategies that HCFA could use to meet future data needs.
- Synthesize data needs, data sources, and data strategies to produce a plan for meeting current and future data needs for physician payment research.

Status: This project is in the early developmental stage.

Physician Volume Responses to Medicare Fee Reduction for Twelve Overpriced Procedures

Funding: Intramural
Project Director: Nancy T. McCall
Division of Reimbursement and Economic Studies

Description: On April 1, 1988, Congress reduced the Medicare prevailing charge for 12 procedures which it perceived to be overpriced. Prevailing charges were reduced by 2 percent and were further reduced by 0.23 of a percentage point for each percent that the 1987 prevailing charge exceeds 85 percent of the weighted national average of all prevailing charges for the respective procedure. The reductions varied across physicians and Medicare pricing localities, yielding nominal changes ranging from 0 to 17.5 percent. The variable reduction in Medicare prevailing charges provides a natural experiment in which to study physician volume responses to price reductions. The purpose of this intramural study is to provide policymakers with empirical evidence on the response of physicians in 1988 to the reduction in Medicare prices. This study will address five questions—four descriptive questions and one behavioral question. The first 3 questions provide descriptive information on the use of and payment for the 12 overpriced procedures. The fourth question focuses on the issue of substitution, either coding or performance of similar procedures. The behavioral question addresses the issue of how the volume of services provided by a physician responds to the reduction in the prevailing charges. To obtain estimates of the volume response, multivariate regression analyses will be performed. The analyses will be conducted using a 4-State data base containing 100-percent Medicare Part B claims aggregated to the physician level.

Status: Data collection and cleaning have been completed, and analytic files have been created. Descriptive statistics and preliminary econometric results are expected in late fall 1991.

Effects of Changes in Reimbursement for Overpriced Procedures

Project No.: 99-C-98489/9
Period: August 1991—July 1992
Funding: $ 3,762
Award: Cooperative Agreement
Contractor: The RAND Policy Research Center
(See page 78)
Project Officer: Nancy T. McCall
Division of Reimbursement and Economic Studies

Description: The project is an econometric analysis of the effects on physician decisionmaking of the Omnibus Budget Reconciliation Act of 1987 changes in Medicare Part B reimbursement for 12 surgical procedures. The project has three objectives: development of a research data base from Medicare data for econometric analysis

of clinical decisionmaking; quantitative estimation of the influence of changes in reimbursement on key decisions of patient management and on physician practice styles; and testing of new econometric techniques to analyze the effect of changes in reimbursement on physician decisionmaking.

Status: This project is in the early developmental stage.

Global Fees for Surgery

Project No.: 99-C-98526/1
Period: August 1989—July 1990
Funding: $ 73,899
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Sherry A. Terrell, Ph.D.
Division of Reimbursement and Economic Studies

Description: Most surgeons and carriers in a given area share a common definition of the global fee. However, wide variations between areas and in physician billings have been observed for related diagnostic and surgical services. Concern exists that some surgeons may bill extra for related services to offset any perceived revenue losses attributed to physician payment reforms. This study documented current billing patterns by surgeons in calendar year 1987 for extra services and identified potential unbundling that might occur if a uniform national global fee definition replaces current billing practices.

Status: This study has been completed. Using the 1987 Linked Part A and Part B Medicare Annual Data for 5 percent of all beneficiaries, pre- and post-operative services were studied for time periods of 7 days prior to surgery, the day of surgery, and 90 days after surgery. Pre- and post-operative care was defined to include visits, consultations, diagnostic tests, and incidental surgeries. The final report entitled "Global Fees for Surgery" is available from the National Technical Information Service, accession number PB91-113498. More research on the billing practices of physicians other than the primary surgeon is recommended.

Surgical Global Fee Packages

Project No.: 99-C-98526/1
Period: August 1990—July 1991
Funding: $ 109,197
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Sherry A. Terrell, Ph.D.
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: A key element in the construction of the new Medicare physician fee schedule is the work value that is attached to each service and procedure. For many surgical procedures, Medicare payment has been based on a global fee which includes some pre-, intra, and post-operative services in addition to the surgical procedure. With a national fee schedule, global fee definitions must be consistent so that the national work value involves the same mix of services. The purpose of this project is to describe visit billings outside the global fee for all carriers for the top 100 surgical procedures and to test the sensitivity of total work values to alternative definitions of the global period, especially for the preoperative time period. Because Medicare carriers historically have used different definitions of the global fee, the implementation of a single consistent definition of total work may have differential effects around the country. This project will examine those differential effects as well as the resulting changes by carrier.

Status: This project is near completion. A draft final report analyzing proposed Medicare standardized global fee periods is being reviewed. Visit billings of primary surgeons outside the global fee were identified. Carrier practices were examined to allow adjustments for a standard mix of services and global fee period. Both major and minor surgeries and intraoperative procedures billed for on the same day as the index surgical procedures were studied. With new global fee definitions, adjustments may need to be made to the total relative value unit base.

Assistants at Surgery: Geographic Variation

Project No.: 99-C-98489/9
Period: August 1990—October 1991
Funding: $ 106,594
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Benson L. Dutton
Division of Reimbursement and Economic Studies

Description: This study seeks to explain the large geographical variation in the use of physicians as assistants at surgery and to describe patterns of use of assistants in terms of the primary surgeon's specialty, hospital characteristics, and characteristics of the physicians serving as assistants at surgery. This study will also develop a plan for assessing the feasibility of bundling payments for assistants at surgery into the hospital diagnosis-related group payment.

Status: Preliminary findings were presented to the Health Care Financing Administration staff at a briefing in June 1991. Together with subsequent analyses, those preliminary findings will be included in a final report expected in fall 1991.

Multiple Physicians Furnishing Surgery

Project No.: 99-C-98526/1
Period: August 1990—October 1991
Funding: $ 149,374
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Benson L. Dutton
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: This project will:

- Provide a detailed descriptive analysis of the extent to which physicians, other than the primary surgeon, provide separately billable services during a surgery.
- Examine the top 100 most frequently used Medicare surgical procedures based on expenditures.
- Assess the extent to which additional physicians would enhance the productivity of the primary surgeon or would be substituted to perform the work that would otherwise be provided by the primary surgeon.
- Provide a descriptive analysis of the frequency with which cataract surgery is performed on Medicare beneficiaries on a sequential basis by the same physician.
- Assess the amount of Medicare payment reduction that could be made under a resource-based fee schedule.

Status: All beneficiary and all surgical claims for the index procedures have been identified. Further review by physician consultants will be conducted. After all surgical claims have been categorized, tables will be developed summarizing total allowed charges for each type of index procedure and for each of the four categories within each type of index procedure. This project is expected to be completed with a final report by March 1992.

Place of Service Payment Differentials

Project No.: 99-C-98526/1
Period: September 1990—July 1991
Funding: $ 50,123
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Nancy T. McCall
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: This project analyzed patterns of ambulatory surgery and the payment rate differentials among physicians and facilities across three ambulatory settings—the physician's office, the hospital outpatient department, and freestanding ambulatory surgery centers. The project consisted of three tasks. The first task was a descriptive analysis of surgery in three ambulatory surgery settings. The second task was a descriptive analysis of the existing payment differentials across the three ambulatory surgery settings for frequently occurring surgical procedures that had been identified in Task 1. The third task modeled alternative approaches to paying for ambulatory surgery procedures and estimated the effect of these alternatives on Medicare payments.

Status: The project has been completed. A final report was received by the Office of Research and Demonstrations in September 1991.

Urban and Rural Differences in Physician Practices

Project No.: 99-C-98526/1
Period: August 1988—December 1990
Funding: $ 54,270
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Sherry A. Terrell, Ph.D.
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)

Description: This study, conducted in two phases, provides a descriptive comparison of urban and rural physician practices. Its objective is to create a general set of baseline data on physicians' practices in such communities.

Status: This project has been completed. A special purpose public-use file from the 1986 Socioeconomic Monitoring System Core Survey of the American Medical Association was used in a number of descriptive analyses. Findings are that:

- Urban physicians are more specialized than are rural physicians, especially in surgical specialties (ophthalmology and orthopedics) used frequently by Medicare beneficiaries.
- Rural physicians are more likely to practice alone, to be self-employed, and to be organized as sole proprietors than are urban physicians.
- Rural physicians are less likely to participate in Medicare (take assignment 100 percent of the time); nonparticipating rural physicians are less likely to take assignment than their nonparticipating urban counterparts.
- Rural physicians are more dependent on public sources of revenue, such as Medicare and Medicaid, than are their urban counterparts.

The final report entitled "Urban and Rural Physicians: Considerations for Medicare Payment Reform" is available from The Urban Institute, Washington, D.C. 20037 as Health Policy Research Paper #3875-01 (December 1990 revised).

Analysis of Malpractice Premium Data

Project No.: 99-C-98526/1
Period: August 1990—December 1991
Funding: $ 99,901
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Benson L. Dutton
Division of Reimbursement and Economic Studies

Description: This project will consist of four tasks. In the first task, project staff will analyze why estimates of the rate of increase in premiums computed from Health Care Financing Administration (HCFA) survey data differ from the expense growth rate documented by the American Medical Association and in *Medical Economics* surveys. In the second task, they will collect additional premium data from a broader range of companies than those included in HCFA's current survey. In the third task, project staff will examine the rate of change in premiums, using data from mutual funds and physician reciprocal companies, rather than from stock companies. In the fourth task, they will use these data to develop new Malpractice Geographic Practice Cost Indexes based on averages of premiums within each State.

Status: The first phase of this project, a comparison of methodologies for measuring trends in malpractice premiums and expenses, has been completed. The second phase involving a survey of physician-owned malpractice insurers is nearly completed and should be finished by fall 1991. The remainder of the project is expected to be completed by the end of 1991.

Adjusting Physician Payment for Malpractice Risk

Project No.: 99-C-98489/9
Period: August 1991—July 1992
Funding: $ 50,000
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Benson L. Dutton
Division of Reimbursement and Economic Studies

Description: The aim of this proposal is to examine an alternative malpractice adjuster in the formula for reimbursing physicians that was mandated in the Omnibus Budget Reconciliation Act of 1989. In particular, this work analyzes the risk-of-service method recommended by the Physician Payment Review Commission in its 1991 Annual Report. The goal of this study is to make Medicare payments for individual procedures more precise by reflecting the malpractice risk associated with those procedures rather than with the entire activity of the specialty performing the procedure.

Status: This project is in the early developmental stage.

Malpractice Component of the Medicare Economic Index

Funding: Intramural
Project Director: Benson L. Dutton
Division of Reimbursement and Economic Studies
Mandate: Social Security Amendments of 1972 (Public Law 92-603)

Description: Each year, the Health Care Financing Administration (HCFA) publishes the Medicare Economic Index (MEI), which is congressionally mandated by Public Law 92-603, for use in establishing the reasonable charges for physician services. The MEI is developed by HCFA's Office of the Actuary in accordance with the basic methodology set forth in 42 *Code of Federal Regulations* 405.504(a)(3)(i) from selected components of the Consumer Price Index or the Producer Price Index. Since January 1, 1987, the MEI increase factors have been established by Congress through Section 9331(c)(i) of Public Law 99-509 for fee-screen year (FSY) 1987, Section 4041(a) of Public Law 100-203 for the first 3 months of FSY 1988, Section 4042(b)(4)(F)(ii) for the remainder of FSY 1988, and Section 4042(b)(4)(F)(iii) for FSY 1989, Section 4105(a) of Public Law 101-508 for FSY 1991 and FSY 1992. For FSY 1990, no provisions for establishing MEI increase factors were set. HCFA's Office of Research and Demonstrations develops data for calculating the malpractice component of the MEI. These data are obtained annually from major medical malpractice insurers. The medical malpractice component estimates the annual changes in medical malpractice insurance premiums for specific levels of coverage.

Status: The requisite data have been obtained so that results could be provided to HCFA's Office of the Actuary. Announcement of the MEI will be made in the *Federal Register* for FSY 1992 (January 1, 1992 to December 31, 1992).

Technology Change, Medicare Volume Performance Standards, and Medicare Expenditure Growth

Project No.: 99-C-99168/3
Period: August 1991—July 1992
Funding: $ 107,865
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Lawrence E. Kucken
Division of Beneficiary Studies

Description: This project will involve a detailed empirical analysis of 7 to 10 medical technologies. It will include a review of current and planned Health Care Financing Administration data systems for measuring the diffusion, use, and cost impacts of new technologies on an ongoing basis. Alternative technologies will be chosen along dimensions of: costs impact (increasing versus decreasing), clinical impact

(diagnostic versus therapeutic), quality impact (enhancing or not), and site of service (i.e., office, hospital, or outpatient center).

Status: This project is in the early developmental stage.

Analysis of Technological Changes in Physician Services

Project No.: 99-C-99168/3
Period: August 1990—July 1991
Funding: $ 74,582
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Lawrence E. Kucken
Division of Beneficiary Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: This project had three objectives. The first was to examine alternative approaches for measuring the impact of technological change on Medicare physician service volume and total expenditures. In addition to developing a conceptual framework, this examination included an assessment of the feasibility of each approach. The second was to identify technological advances that have significantly increased Medicare physician expenditures in the recent past or that could lead to such increases in the future. The third was to apply the proposed method or alternative methods to estimate the impact of several of the identified technologies on Medicare physician services volume and overall expenditures.

Status: The final report has been completed. The following are among the more salient findings:

- The general economics literature does not provide a simple or straightforward method of identifying and measuring aggregate technological change and its impact on expenditures.
- Health services literature contains studies of the impact of technological change that follow one of two methods—the residual approach or the technology-specific approach.
- The net impact of technological change on physician expenditures appears to be cost-increasing.

The final report entitled "Assessing the Impact of Changes in Technology on Medicare Expenditures for Physician Services: Background, Issues and Options" is available from the National Technical Information Service, accession number PB91-227413.

Efficient Volume Pricing of the Technical Component for Diagnostic Procedures

Project No.: 99-C-99169/5
Period: August 1991—July 1992
Funding: $ 121,503
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Joel W. Greer, Ph.D.
Division of Beneficiary Studies

Description: This is a continuation of the University of Pennsylvania's examination of Medicare pricing for the technical component of specified diagnostic tests. Previous work indicated that Medicare payments for some diagnostic procedures were above estimated fair market prices and examined volume-dependent pricing options. For this study, researchers will investigate a pricing policy for the technical component of diagnostic tests based on "efficient prices"—the price at which an efficient provider would make a modest profit. The university will concentrate on:

- Determining what efficient pricing implies and how can it be implemented?
- Estimating efficient prices for the diagnostic tests previously studied as well as others suggested by expert panels.
- Proposing a method for updating a pricing policy based on efficient prices.

Status: This project is in the early implementation stage.

Diagnostic Tests—The Technical Component: Provider Volume and Ownership Patterns

Project No.: 99-C-99169/5
Period: August 1989—July 1991
Funding: $ 99,960
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Michael Borowitz, M.D.
Division of Reimbursement and Economic Studies

Description: The purpose of this project is to investigate the appropriateness of payment levels for the technical component of diagnostic tests, using the Part B Medicare Annual Data provider file and other data sets. The technical-fee component of diagnostic tests is intended to compensate physicians for the capital costs of diagnostic equipment as well as the costs of operating the equipment. Researchers believe that the payment level for the technical component of diagnostic tests should be set just high enough to ensure both access and quality for Medicare beneficiaries. A previous study suggested that Medicare's payment for the technical component of several diagnostic tests was overpriced. For this study, the estimates of the components that make up the cost of the technical component of diagnostic tests, such as the cost of equipment, the cost of technicians, and the volume of services will be refined.

Status: This project is near completion. An oral presentation of findings was made to staff at the Health Care Financing Administration in May 1991. The final report is expected by the end of 1991.

Diagnostic Testing: Policy Analysis of Pricing Options

Project No.: 99-C-99169/5
Period: August 1990—October 1991
Funding: $ 99,979
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Joel W. Greer, Ph.D.
Division of Beneficiary Studies

Description: The objective of this project is to devise a pricing policy for the technical component of selected diagnostic tests performed by physicians that comes as close as possible to incentive neutrality and paying fair prices.

Status: Project staff ran focus panels that solicited from experts estimated use and cost parameters of the selected diagnostic tests. Estimates of the cost per test for various types of providers were calculated from these parameters. Part B Medicare Annual Data for 1988 were analyzed to estimate the distribution of actual Medicare and total test volume per provider. The merits of various volume-based pricing options will be addressed in the final report, which is expected in fall 1991.

Bundling the Lab-Handling Fee in the Office Visit Payment Rate

Project No.: 99-C-98526/1
Period: August 1991—July 1992
Funding: $ 70,748
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Benson L. Dutton
Division of Reimbursement and Economic Studies

Description: The purpose of this study is to examine the feasibility of eliminating separate payment for the lab-handling charge, assuming it is already bundled into the office visit payment. Specifically, researchers will:

- Document the frequency with which lab-handling charges are billed, as a percent of total office visits and by individual procedure code.
- Examine the variations in such billing practices by specialty and by carrier.
- Simulate the effect of eliminating separate reimbursement for these handling charges.

Status: This project is in the early developmental stage.

Bundling Test Interpretation Fees into Medical Visit Fees

Project No.: 99-C-99168/3
Period: August 1990—October 1991
Funding: $ 125,447
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Harry L. Savitt, Ph.D.
Division of Beneficiary Studies

Description: This project will analyze the extent to which physician test-interpretation fees and other professional services could be bundled into office visit fees. The use of separate fees for interpretation of diagnostic tests will be examined for all diagnostic tests in general, and for electrocardiography and chest X-rays in particular. Other professional services billed separately from the visit fee will be examined for all office visits. Strategies for bundling test-interpretation fees and other professional service fees into office visit fees will be proposed and evaluated.

Status: The construction of files for the analysis of electrocardiogram billing has been completed. Analysis of billing patterns is currently under way. A final report is expected in October 1991.

Anesthesia Payments

Project No.: 99-C-98526/1
Period: August 1989—January 1992
Funding: $ 175,570
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Jesse M. Levy, Ph.D.
Division of Reimbursement and Economic Studies

Description: For nearly 20 years, anesthesia services have been billed and often paid on the basis of the sum of base value units (reflecting the complexity of a procedure), time units (measuring anesthesia time), and modifier units (special circumstances), multiplied by a dollar conversion factor. This study is designed to aid the Health Care Financing Administration in creating a uniform relative value scale for anesthesia services that could eliminate variation in time units for anesthesia payments. The first part of the project will focus on determining the extent of variation in time units under both anesthesia and surgical coding systems using Part B Medicare Annual Data. The second part will investigate the same relationships using different data; study episodes of care; and investigate variations in Medicare payments by practice arrangement, among other tasks.

Status: A draft report for the first phase of this project has been received.

Economies in Furnishing Physician Services

Project No.: 99-C-99169/5
Period: August 1989—October 1990
Funding: $ 50,814
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)

Project Officer: Jesse M. Levy, Ph.D.
Division of Reimbursement and Economic Studies

Description: This project provides a conceptual, theoretical, and practical review of the economies needed in producing physician services. The objectives were to design practical ways for the Medicare program to measure economies in furnishing physician services and to provide information that can be used to help determine appropriate fee schedule amounts for physician services under Medicare when economies are present. Specific project tasks included developing a classification system for analyzing various types of economies in production, analyzing recent payment reform proposals in the context of the taxonomy, and assessing potential data bases that can be used to measure economies for producing physician services.

Status: The final report, "Economies of Scope and Payment for Medicare Physician Services," is available from the National Technical Information Service, accession number PB91-173872.

Economies in Physician Practice

Project No.: 99-C-98526/1
Period: August 1990—September 1991
Funding: $ 125,055
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Edgar A. Peden, Ph.D.
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: This project included several tasks:

- Review of the literature on economies of scale in physician practice.
- Determine the optimal practice scale for various practice sites, geographic locations, and configurations.
- Estimate the optimal scale using existing data sources.
- Estimate the extent of inefficiencies that would be built into the relative values by basing the practice expense and malpractice shares on data obtained from existing surveys of physicians.
- Analyze the extent of the inefficiencies.
- Analyze various options to eliminate the inefficiencies in the relative values.
- Analyze the issues involved with a proposal for a payment differential for physicians not practicing at the optimal scale.

Status: This project has reviewed the existing literature on efficiency and productivity in physician practice, specified both production functions for physicians in varying circumstances, and estimated these functions using data from the Health Care Financing Administration's (HCFA) Physicians' Practice Costs and Income Survey (1983-84 and 1988). Based on this analysis, the researchers concluded that there are increasing returns to scale in single specialty practices. Moving from the current average practice size of 2.4 physicians per practice to 5.2 physicians per practice, the estimated optimal size, would increase revenue per physician by 9 percent. The study goes on to consider policies to eliminate scale inefficiencies. HCFA has received the draft final report, and it is under review.

Inefficiencies in Physician Expenses: Implications for the Medicare Fee Schedule

Project No.: 99-C-98526/1
Period: August 1991—July 1992
Funding: $ 80,000
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Nancy T. McCall
Division of Reimbursement and Economic Studies

Description: For this study, researchers will analyze inefficiencies in the practice expense component of the Medicare fee schedule (MFS). Specifically, the study has three objectives: to identify sources of inefficiency in physician practice expenses; to empirically estimate the magnitude of each type of inefficiency; and to simulate physician payments under the MFS based on estimates of efficient practice expenses. This project extends current work analyzing inefficient scales of physician practices. The analytic file will be created from the 1988 Physicians' Practice Costs and Income Survey.

Status: This project is in the early developmental stage.

Comparison of Medicare Fees to Private Payers

Project No.: 99-C-98526/1
Period: August 1989—July 1991
Funding: $ 79,771
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: William J. Sobaski
Division of Reimbursement and Economic Studies

Description: For this study, researchers at the Center for Health Economics Research, Inc., compare the extent to which Medicare and private payer fees in 1984 and 1988 terms differ for the same services and the extent to which simulated changes in Medicare fees in 1988 terms, caused by a resource-based relative value scale and/or a geographic practice cost index published in September 1990, would affect these differences. Researchers discuss the implications of these changes on access to various types of services. They found that simulated Medicare payments for surgical services may fall from 73 percent to 60 percent of charges billed to

private commercial insurers for surgery, but may rise from 72 percent to 77 percent for medical services. Charges varied by particular service and by geographic area. Simulated overall Medicare payments, relative to private payers, will rise in smaller metropolitan areas. The report includes important caveats about their simulations including their disregard of the Omnibus Budget Reconciliation Act of 1990 charges, the changes in relative values and geographic adjustment factors and conversion factors since September 1989, the lack of actual allowed charge information from commercial insurers, and the assumption that there will be no competitive response by private payers to the changes in Medicare payments.

Status: This project has been completed. A final report was received in July 1991 and will be submitted to the National Technical Information Service.

Physician Preferred Provider Organization Demonstration Sites

Project No.: 95-C-99346/5
Period: January 1989—September 1994
Funding: $ 271,055
Award: Cooperative Agreement
Awardee: Family Health Plan
3800 West 80th Street, Suite 1450
Bloomington, MN 55431
Project Officer: Victor G. McVicker
Division of Hospital Experimentation

Description: Family Health Plan is one of five preferred provider organization (PPO) demonstration sites participating in the Medicare physician PPO pilot demonstration. Family Health Plan is a privately owned, for-profit subsidiary of Metrocare National, Inc. Family Health Plan supplies a PPO network, medical service review, and related benefit management services. The Medicare PPO demonstration will be conducted in the Minneapolis/St. Paul area and in six adjacent counties. Family Health Plan will market services primarily to employer retiree groups although individual beneficiaries may be contacted.

Status: Family Health Plan is planning to implement the demonstration in November 1991. To date, Family Health Plan has developed specific benefit designs and received commitments from two employers.

Project No.: 95-C-99340/9
Period: January 1989—September 1993
Funding: $ 2,885,633
Award: Cooperative Agreement
Awardee: CAPP CARE, Inc.
17390 Brookhurst Street
Fountain Valley, CA 92708
Project Officer: Michael Henesch
Division of Hospital Experimentation

Description: CAPP CARE is a for-profit preferred provider organization (PPO) physician network operating in 34 States. It is one of five PPO demonstration sites selected for the Medicare physician PPO pilot demonstration. This demonstration was implemented for a 3-year period beginning on March 1, 1990, and is being conducted in Orange County, California, as a nonenrollment model that allows any Medicare beneficiary in the service area to use CAPP CARE physicians at any time. Beneficiaries who receive services from CAPP CARE physicians participating in the demonstration are assured that those physicians will accept Medicare payments as payment in full. The purpose of this project is to evaluate the performance of physicians via utilization review, medical review, and quality assurance protocols, and to assess the impact on the Medicare program. The analysis will include prior authorization of all elective admissions and procedures—both inpatient and outpatient—and retrospective review based on paid claims data run against an automated ambulatory care review system.

Status: A network of 850 physicians is participating in the demonstration. CAPP CARE is processing about 46,000 Medicare claims and 1,000 precertification requests per month.

Project No.: 95-C-99341/9
Period: January 1989—December 1993
Funding: $ 10,205
Award: Cooperative Agreement
Awardee: Blue Cross and Blue Shield of Arizona
2444 West Las Palmaritas Drive
P.O. Box 13466
Phoenix, AZ 85002-3466
Project Officer: Cynthia K. Mason
Division of Hospital Experimentation

Description: Blue Cross and Blue Shield of Arizona is one of five preferred provider organization (PPO) demonstration sites selected to participate in the Medicare physician PPO pilot demonstration. The service areas of the demonstration are Maricopa and Pima Counties, which include Phoenix, Scottsdale, and Tucson. Blue Cross and Blue Shield of Arizona is offering the PPO option, Senior Preferred, under its current Medicare supplemental insurance program. The Senior Preferred option will be available to all beneficiaries in the demonstration areas for a lower premium than that offered under Blue Cross and Blue Shield of Arizona's traditional Medicare supplemental insurance program.

Status: Blue Cross and Blue Shield of Arizona began marketing the Senior Preferred option in fall 1988. Evaluation of the demonstration site began January 1, 1990. As of July 1991, 5,900 beneficiaries had enrolled in the Senior Preferred plan.

Evaluation of the Physician Preferred Provider Organization Demonstration

Project No.: 500-87-0028
Period: June 1989—December 1993
Funding: $ 730,929

Award: Technical Support: Evaluation of Demonstrations
(See page 82)
Contractor: Mathematica Policy Research, Inc.
P.O. Box 2393
Princeton, NJ 08543-2393
Project Officer: Victor G. McVicker
Division of Hospital Experimentation

Description: In January 1989, five preferred provider organizations (PPOs) were selected to participate in the Medicare physician PPO pilot demonstration. Site selection included:

- Blue Cross and Blue Shield of Arizona, Phoenix.
- HealthLink, Inc., St. Louis, Missouri.
- CareMark, Inc., Portland, Oregon.
- Family Health Plan, Bloomington, Minnesota.
- CAPP CARE, Inc., Fountain Valley, California.

The purpose of evaluating the pilot demonstration is to assess the operational feasibility of the Medicare physician PPO concept. To facilitate this assessment, the implementation and operational experience of the pilot PPOs will be evaluated comprehensively using case study methods. The assessment will include an analysis of biased selection, beneficiary choice, provider practice patterns, and the impact of the demonstration on Medicare costs and utilization of each site. Because each site is a unique model, the contractor, Mathematica Policy Research, Inc., will examine the unique features of each site and will look at how these features contribute to the success of the site.

Status: Blue Cross and Blue Shield of Arizona and CAPP CARE implemented the demonstration in January 1990 and March 1990, respectively. Family Health Plan is planning to implement the demonstration in November 1991. CareMark and HealthLink withdrew from the demonstration. In July 1991, Mathematica submitted the second status report for this project and a draft of the report on the Phoenix, Arizona, and Orange County, California, structured discussion groups. The first status report, "Blue Cross and Blue Shield of Arizona Medicare Physician PPO Demonstration Status Report," covering the Arizona site, was submitted to the National Technical Information Service, accession number PB91-106906. Based on this report, researchers at Mathematica published the following article: Nelson, L., Swearingen, G., Sing, M., and Quinn, E.: Medigap preferred provider organizations: Issues, implications, and early experience. *Health Care Financing Review.* 12(4):87-97. HCFA Pub. No. 03318. Office of Research and Demonstrations, Health Care Financing Administration. Washington. U.S. Government Printing Office, Summer 1991.

Medicare Cataract Surgery Alternate Payment Demonstration

Project No.: 500-87-0030
Period: July 1989—December 1995
Funding: $ 602,845

Award: Technical Support: Design of Demonstrations
(See page 82)
Contractor: Abt Associates, Inc.
55 Wheeler Street
Cambridge, MA 02138-1168
Project Officer: Michael Henesch
Division of Hospital Experimentation

Description: The objective of the task is to assist the Health Care Financing Administration (HCFA) in the design, implementation, and evaluation of a demonstration to assess the feasibility of an all-inclusive negotiated price concept for cataract surgery. The negotiated price covering physician, facility, and intraocular lens costs for the procedure would be tested at up to three sites, but participation by providers and beneficiaries at each site would be completely voluntary.

Status: A two-stage solicitation process is being used to select demonstration providers. A preapplication phase completed in August 1991 allowed HCFA to identify those providers most capable of participating further in the selection process. Those providers have been invited to submit final applications under the second phase of the solicitation process. HCFA plans to select designated providers in late 1991 for implementation in early 1992.

Medicare Participating Heart Bypass Centers

Period: January 1991—September 1994
Award: Grant
Project Officer: Armen H. Thoumaian, Ph.D.
Division of Hospital Experimentation

Description: The Office of Research and Demonstrations, Health Care Financing Administration (HCFA), will assess the feasibility of a negotiated all-inclusive pricing arrangement for coronary artery bypass graft (CABG) procedures while maintaining high-quality care. Hospitals and physicians participating in the project will receive a global payment covering hospital and related physician services for CABG surgery. Participation in the demonstration is completely voluntary for Medicare beneficiaries. Hospitals and physicians not participating in the demonstration will continue to provide services and receive payment under the traditional Medicare program.

Project No.: 95-P-99602
Grantee: Saint Joseph's Hospital of Atlanta
5665 Peachtree Dunwoody Road, NE.
Atlanta, GA 30342-1701

Project No.: 95-P-99597
Grantee: The Ohio State University Hospitals
450 West 10th Avenue
Columbus, OH 43210

Project No.: 95-P-99591
Grantee: Catherine McAuley Health System
5301 East Huron River Drive
P.O. Box 992
Ann Arbor, MI 48106

Project No.: 95-P-99592
Grantee: The University Hospital
88 East Newton Street
Boston, MA 02118

Status: Implementation at the four sites began in May 1991. HCFA is considering an expansion of the demonstration to include additional sites from among the remaining six recommended hospitals. Those hospitals that indicated a continuing interest in becoming a demonstration site were sent a list of questions about their original proposals. Responses received in July 1991 are being considered, with final selections expected in fall 1991.

Medicare Participating Heart Bypass Center Demonstration

Project No.: 500-87-0029
Period: June 1989—December 1993
Funding: $ 708,345
Award: Technical Support: Evaluation of Demonstrations (See page 82)
Contractor: Lewin/ICF
1090 Vermont Avenue, NW., Suite 700
Washington, DC 20005
Project Officer: Armen H. Thoumaian, Ph.D.
Division of Hospital Experimentation

Description: The contractor's objective is to assist the Health Care Financing Administration (HCFA) in implementing and evaluating a 3-year demonstration designed to assess the feasibility of a negotiated all-inclusive pricing arrangement for coronary artery bypass graft surgery while maintaining high-quality care. Lewin/ICF will assist HCFA in preparing an evaluation and implementation plan, monitoring the demonstration sites, collecting and analyzing data, and preparing the final evaluation report. Some key questions to be addressed during the evaluation are:

- Did the demonstration result in a net cost savings to the Medicare program?
- What was the source of any volume increases at the demonstration sites?
- What aspects of a demonstration site are attractive to Medicare beneficiaries and to referring physicians?
- Was quality of care at the demonstration sites equivalent to that provided at the sites prior to the demonstration?

Status: HCFA negotiated with the finalists and selected four demonstration sites in January 1991. Implementation of the demonstration began in May 1991. Lewin/ICF has completed the design of the evaluation and the data collection plan and is currently preparing to begin data collection at the four sites. HCFA is considering an expansion of the demonstration to include additional sites from among the remaining six recommended hospitals. Those hospitals that indicated a continuing interest in becoming a demonstration site were sent a list of questions about their original proposals. Responses received in July 1991 are being considered, with final selections expected in fall 1991.

Physician Reaction to Price Changes

Project No.: 500-89-0050
Period: September 1990—December 1991
Funding: $ 170,870
Award: Contract
Contractor: Health Economics Research, Inc. (HERI)
300 Fifth Avenue, 6th Floor
Waltham, MA 02154
Project Officer: Nancy T. McCall
Division of Reimbursement and Economic Studies

Description: The response of physicians to price changes is a critical issue, especially as Medicare moves to a fee schedule that redistributes fees among types of services and among areas of the country. It has widely been assumed that physicians react to price reductions in some fashion. The reaction could be manifest with providing a different quantity of the same service or of another service, changing billing practices, or changing practices regarding reporting of services. Reductions in Medicare payment amounts for overpriced procedures in the Omnibus Budget Reconciliation Acts (OBRA) of 1986 and 1987 give regulators an opportunity to analyze physicians' reaction to price reductions. Effective January 1, 1987, OBRA 1986 reduced Medicare's prevailing charges for cataract surgery by 10 percent, subject to a floor at 75 percent of the national average charge. OBRA 1987 reduced Medicare's prevailing charges for 12 procedures (38 specific Current Procedural Terminology-4 codes) by 2 percent and further reduced prevailing charges by a sliding scale from 0 to 15 percent, depending on the relationship of the locality prevailing charge to the national average. The researchers will produce a descriptive analysis of utilization of the overpriced procedures occurring from 1985 to 1989 on a procedure-specific, quarterly pricing locality basis. The data for this analysis will be a multistate 100-percent claims data base. Researchers will also perform a descriptive analysis of trends in episodes of care. This analysis will identify changes in the provision of overpriced procedure-related services that the physician may alter in response to the price reduction. The data for this latter analysis are the Part B Medicare Annual Data beneficiary linked files for 1985-89.

Status: Case studies of the diffusion of 12 surgical procedures have been completed. Preliminary trend and episode-of-care analyses have been completed.

Beneficiary Access to and Utilization of Physician Services: Developing Baseline and Followup Measures for Assessing Physician Payment Reform

Project No.: 99-C-99168/3
Period: August 1991—July 1992
Funding: $ 84,112
Award: Cooperative Agreement

Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Lawrence E. Kucken
Division of Beneficiary Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: For this project, HOPE intends to develop an empirical framework for monitoring access and utilization following the implementation of physician payment reform. Researchers will concentrate on provider-related access issues and measures such as assignment and participation rates and physician to population ratios. Health Care Financing Administration and other data files (e.g., the American Medical Association master file) will be used in measuring market area supply versus the number of physicians providing services to beneficiaries.

Status: This project is in the early developmental stage.

Medicaid Fees and Physician Participation

Project No.: 500-89-0054/02
Period: September 1990—October 1991
Funding: $ 288,146
Award: Contract
Contractor: The Urban Institute
Health Policy Center
2100 M Street, NW.
Washington, DC 20037
Project Officer: Sydney P. Galloway
Office of Operations Support
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: The purpose of this project is to:

- Collect recent data on Medicaid fee levels.
- Compare these levels with present Medicare fees, fees of private payers, and the Medicare fee schedule enacted by the Omnibus Budget Reconciliation Act of 1989.
- Examine the relationship between these fee levels and physician participation in Medicaid.

Status: The project is in the data analysis and final report stage.

Other Physician Studies

Trends in Access to Physician Services

Project No.: 99-C-98526/1
Period: September 1991—July 1992
Funding: $ 86,725
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Lawrence E. Kucken
Division of Beneficiary Studies

Description: The purpose of this project is to provide descriptive statistics about physician service use by various elderly subgroups according to age, race, and urban and rural residence. Data will be presented according to a Current Procedural Terminology-4 codes classification scheme and will be based on data from the Part B Medicare Annual Data file for the years 1985-90.

Status: This project is in the early developmental stage.

Determinants of Cost of Care: The Influence of Physician Style versus Patient Characteristics

Project No.: 99-C-99169/5
Period: September 1988—October 1991
Funding: $ 164,257 (Assistant Secretary for Planning and Evaluation funded project)
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: William Buczko, Ph.D.
Division of Reimbursement and Economic Studies

Description: Significant variations in the cost of managing patients with the same diagnosis have been documented. For approximately 400 patients with acute myocardial infarctions, this study will help determine what percent of variance in the cost of care is caused by the physicians' unique practice patterns and what percent is caused by differences in patient population characteristics and disease severity. Methods will also be developed to explore the relationships among disease severity, comorbidity, and resource use in the specific care of Medicare patients with myocardial infarctions.

Status: Researchers have completed collecting supplementary chart data. The merged study data file has been created, and data analysis has been completed. The final report is in progress and is expected late 1991.

Developing a Paradigm for Descriptive Analysis of Physician Balance Billing of Medicare Beneficiaries

Project No.: HCFA-91-0203
Period: January 1991—June 1991
Funding: $ 7,000
Award: Contract
Contractor: Robert L. Gruber
512 Hollen Road
Baltimore, MD 21212
Project Officer: William J. Sobaski
Division of Reimbursement and Economic Studies

Description: The purpose of this project was to study, document, and analyze the difference between the amount Medicare allows to be paid for a procedure performed by a physician and the maximum allowable actual charge constrained amount the physician is actually allowed to bill the patient (i.e., the balance billing on an unassigned claim). The contractor developed a paradigm for describing balance billing patterns for various kinds of physician services in a

sample of geographic areas based on data contained in the Part B Medicare Annual Data (BMAD) provider file. The contractor's approach will be considered for use in the preparation of annual reports to Congress due each April 15, beginning in 1992, on changes in beneficiary out-of-pocket costs resulting from the introduction of the Medicare fee schedule.

Status: The project has been completed. The computer programs and algorithms resulting from the contract are available from the project officer. However, changes that have been made in the BMAD provider file for 1991 and later years will require revision of these computer programs and algorithms prior to undertaking further studies that would use this paradigm.

Physician Payment Differentials by Board Certification Status

Project No.: 99-C-99168/3
Period: August 1989—July 1992
Funding: $ 77,300
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Alvin L. Freedman
Division of Reimbursement and Economic Studies

Description: The purpose of this project is to examine the nature and extent of physician payment differentials in health care settings in which physicians are salaried. Phase I of the project examined physician payment mechanisms in staff-model health maintenance organizations (HMOs). Phase II will survey payment mechanisms in other group practices.

Status: Phase I results were submitted to the Health Care Financing Administration in December 1989. These results indicate that years of experience was the most predominant criterion for determining physician salary differentials in HMO settings. Survey materials for Phase II have been developed.

Physician Income over Time

Project No.: 99-C-98526/1
Period: August 1989—July 1991
Funding: $ 59,537
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Michael Borowitz, M.D.
Division of Reimbursement and Economic Studies

Description: This project used the 1975, 1978, 1984-85, and 1989 Physicians' Practice Costs and Income Surveys to examine the changes in physician income over time. Previous research had indicated that physician average real income has shown little growth over the past decade. However, the changing mix of physician characteristics (e.g., by age, sex, and specialty) had not been addressed nor had changes in physician workload. For this study, investigators controlled for changes in physician characteristics and physician workloads and determined that physician real income has increased substantially over the last decade.

Status: A final report has been received and is under review.

Designing a Study of Components of the Dialysis Monthly Capitation Payment

Project No.: 99-C-98489/9
Period: September 1990—August 1991
Funding: $ 50,443
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Lawrence E. Kucken
Division of Beneficiary Studies

Description: The aim of this project is to develop a design for a study of the types, frequency, and settings of physician services provided to Medicare dialysis patients. In designing the study, RAND will develop data collection and sampling strategies. The study design will focus on three basic kinds of analyses—analysis of the care provided to dialysis patients, analysis of variations in the bundle of physician services provided, and analysis of selected outcome measures.

Status: The project report is in the final stages of preparation.

Ambulatory Cardiac Monitoring

Project No.: 99-C-99169/5
Period: August 1990—July 1992
Funding: $ 100,000
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Michael Borowitz, M.D.
Division of Reimbursement and Economic Studies

Description: The primary goals of this project are to develop and pilot test an instrument which collects supplemental data from physician providers to guide the Health Care Financing Administration in reimbursing ambulatory cardiac monitoring and to design a large-scale intervention to assess the feasibility of obtaining this information from providers on a routine basis.

Status: This project is in the developmental stage. A primary forms clearance package for gathering data is in preparation.

Effectiveness of Ambulatory Cardiac Monitoring

Project No.: 99-C-98489/9
Period: August 1990—September 1991
Funding: $ 80,000
Award: Cooperative Agreement

Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Michael Borowitz, M.D.
Division of Reimbursement and Economic Studies

Description: This project expanded the previous meta-analytic study of the effectiveness of ambulatory cardiac monitoring (ACM) conducted by the Technology Assessment Group at Harvard University. The study carried out additional meta-analyses to explore the effectiveness of ACM for specific diagnostic uses. Researchers developed models for decision analysis for determining the appropriate use of ACM for each of the clinical indications being studied.

Status: This project is near completion. It has developed decision models for three indications for ACM; diagnosis of syncope, detection of silent ischemia, and therapeutic monitoring of antiarrhythmic agents. The final report is expected by the end of 1991.

Computer-Assisted Test Interpretation

Project No.: 99-C-99169/5
Period: August 1990—July 1992
Funding: $ 146,825
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Harry L. Savitt, Ph.D.
Division of Beneficiary Studies

Description: This project will design a plan to:

- Identify diagnostic tests (in addition to electrocardiograms) for which computers can be used to interpret test results and estimate the total and average amounts of Medicare payments and volumes for these interpretations.
- Analyze the extent to which computerized interpretations for these tests are used in the hospital setting.
- Assess the extent to which a physician reviews the computerized interpretation and the interpreting physician makes a written report.
- Assess the impact of computer interpretations on quality and physician productivity.

Status: Tests for which computerized interpretation is of practical importance and their volume have been identified. Reviews of marketing literature and direct observation of physician use of computer-assisted test interpretation (CATI) are being carried out. Prevalence of CATI, pricing policy, and pricing effects will be analyzed. A final report is expected in July 1992.

Outpatient Care

New York State Products of Ambulatory Care Reimbursement Project

Project No.: 11-C-98574/2
Period: September 1984—August 1991
Funding: $ 1,263,788
Award: Cooperative Agreement
Awardee: New York State Department of Social Services
40 North Pearl Street
Albany, NY 12243
Project Officer: Joseph M. Cramer
Division of Hospital Experimentation

Description: The New York State Department of Social Services and the Office of Health Systems Management within the New York State Department of Health jointly submitted this proposal. The purpose of the project was to develop and test a prospective ambulatory care payment methodology for both freestanding clinics and hospital-based ambulatory care services that would be predicated on a uniform cost comparison by a patient-care service classification. The project's activities were divided into three major stages:

- Development of a patient-care classification system that associates relative resource use with patient and service characteristics in homogeneous product groups.
- Creation of payment rates.
- Demonstration and evaluation of the new system.

New York proposed the development of two separate ambulatory classification systems—one for medical services known as the products of ambulatory care (PAC) and one for surgery services known as the products of ambulatory surgery (PAS).

Status: The PAC payment methodology was implemented for Medicaid in 2 test areas in 17 facilities. The 3-year Medicaid waiver expired July 31, 1990. The State has continued the PAC payment system at the 17 facilities as part of its State Medicaid Plan. In addition, the State of New York has received funding to examine the costs of ambulatory surgery services and has developed a case-mix-adjusted ambulatory surgery classification and prospective payment methodology. Furthermore, it has developed 42 patient categories under PAS. Effective June 1, 1989, PAS became the statewide basis for New York's State Medicaid program to pay for ambulatory surgery in hospitals and in freestanding surgery centers. The major and continuing activity during the final year of the project was the recalibration of the PAC case-mix values and the facility component in the PAC pricing formula used to update and refine the prospective payment amounts. Revisions were made to the 1990 and 1991 PAC and PAS Medicaid rates. The project's evaluation task continued to assess the validity of the PAC system and to measure the impact of the demonstration on the cost, availability, and organization of ambulatory care rendered in hospitals and in freestanding clinics. New York also conducted special studies related to the measurement of patient noncontact time and graduate medical education as well as a clinic resource use measurement study. New York plans to incorporate additional facility costs (i.e., administrative and general) into the price component of the PAC payments. Legislation was enacted in the State of New York to incorporate the PAC system statewide effective January 1, 1991, for

ambulatory care providers that meet the criteria as preferred primary care providers. A new PAC classification scheme was also developed. There are now 73 medical PACs, and the new groups were formed based primarily on New York's review of the ambulatory patient groups system. The final report is expected in late fall 1991.

Evaluation of New York State Products of Ambulatory Care Demonstration Project

Project No.: 500-87-0030
Period: June 1988—June 1991
Funding: $ 249,935
Award: Technical Support: Evaluation of Demonstrations
(See page 82)
Contractor: Abt Associates, Inc.
55 Wheeler Street
Cambridge, MA 02138-1168
Project Officer: Joseph M. Cramer
Division of Hospital Experimentation

Description: The purpose of this project is to design and implement an evaluation of the New York State Products of Ambulatory Care (PAC) Reimbursement Project, which will build on and supplement New York State's own evaluation plan. Its primary focus will be to evaluate the New York State PAC patient classification system and payment methodology by using the PAC evaluation data set that is being collected from 17 demonstration sites. The project will also assess the PAC system for Medicare application and will identify other ambulatory care data sources (i.e., other States) and assess their appropriateness for simulated application to the PAC patient classification and payment system.

Status: Abt Associates and their subcontractor, The Urban Institute, have submitted several reports to the Health Care Financing Administration including the case study report and a report on applying the PAC grouper (which assigns visits into the correct PAC) to a sample of Medicare claims. The data analysis report will be included with Abt's final report, which is expected by the end of 1991.

Toward Prospective Payment for Outpatient Department Surgical Services

Project No.: 17-C-99019/3
Period: June 1987—June 1991
Funding: $ 960,254
Award: Cooperative Agreement
Awardee: The Urban Institute
Health Policy Center
2100 M Street, NW.
Washington, DC 20037
Project Officer: Thomas Talbott
Division of Hospital Experimentation

Mandate: Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)

Description: For this project, The Urban Institute (UI) will provide information necessary to assist the Health Care Financing Administration in designing a prospective payment system for surgical procedures performed on a hospital outpatient basis. The project is composed of five major tasks:

- Creating a specialized data base by merging four data sets (i.e., the 5-percent outpatient bill skeleton file, the Part B Medicare Annual Data beneficiary file, the Medicare provider analysis and review file, and the Hospital Cost Report Information System file) from the Medicare Statistical System. The new data base will contain information on facility costs, physician-covered charges, and Medicare reimbursement for similar surgical services across four different settings (i.e., the hospital outpatient department (HOPD), the inpatient hospital, the ambulatory surgical center (ASC), and the physician office).
- Providing descriptive analyses on variations in costs, covered charges, and Medicare reimbursement and frequency of surgical procedures and medical visits both within the outpatient hospital setting and across different settings.
- Developing econometric models to determine facility, demographic, and market characteristics that explain differences in costs, covered charges, and Medicare reimbursement within HOPDs and between HOPDs and ASCs.
- Developing a simulation model to examine the impact of alternative ratesetting approaches on facility revenues and Medicare reimbursement.
- Defining an episode of care by creating analysis files with the episode of care as the unit of observation.

UI, in conjunction with the cooperative agreement awarded to 3M-Health Information Systems, will expand the tasks to provide descriptive analyses and to develop econometric and simulation models to evaluate newly refined ambulatory patient groups (APGs).

Status: UI has completed all data file development and is continuing to evaluate the APG system. It has completed analysis of the single surgery claims and updated its analysis of the ASC data. It has submitted reports providing opinions on seven other classification systems, including the current ASC payment rates and Products of Ambulatory Care and Surgery used in New York State. A descriptive analysis was submitted for all outpatient services describing beneficiary visit patterns, high-volume procedures, high-dollar procedures, and differences in average charges, costs, outliers, and case mix by hospital type. Results indicated that the 40 most frequently provided services account for 53 percent of claims and 46 percent of the charges. An econometric model was developed and when using a multivariate regression equation similar to those used for inpatient analysis, explained 80 percent of the total HOPD average cost variation among hospitals. Much of the variation among the hospitals in the HOPD was attributable to case-mix differences. An adjustment

appears warranted for sole community hospitals, and consideration should be given to regional and national blending during transition as well. A final report is expected by the end of 1991.

Development of a Prospective Payment System for Hospital-Based Ambulatory Surgery

Project No.: 17-C-99026/1
Period: July 1987—June 1991
Funding: $ 443,386
Award: Cooperative Agreement
Awardee: Brandeis University
Florence Heller Graduate School
415 South Street
Waltham, MA 02254
Project Officer: Thomas Talbott
Division of Hospital Experimentation
Mandate: Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)

Description: The purpose of this project was to provide information needed to assist in the development of a Medicare prospective payment system (PPS) for hospital outpatient surgery. Researchers compared and evaluated the utility of several alternative patient classification systems—ambulatory patient groups (APGs), ambulatory visit groups (AVGs), and diagnosis-related groups (DRGs)—in classifying outpatient cases by relative resource intensity. The study data set consisted of the Health Care Financing Administration's 5-percent hospital outpatient bill skeleton file for 1985 with some appended hospital-specific characteristics such as size, teaching status, geographic location, and salaried status of the physician staff. Brandeis University (BU) determined the systems' respective abilities to explain variation in resource use and included a descriptive analysis of ambulatory surgery as well as nonsurgery cases in the sample, by type of hospital (e.g., teaching status and size). The general study approach involved grouping all outpatient surgical cases in this data set into APGs, AVGs, and DRGs. Hospital-covered charges for the outpatient surgical cases were the major measures of resource consumption and were used as the basis to develop weights for the case-mix groups for the recommended PPS. Brandeis studied or tested whether:

- AVGs or APGs are likely to explain resource use for ambulatory surgery better than do DRGs.
- A substantial minority of the ambulatory surgery procedures will be grouped into the two residual DRGs—primary diagnosis unrelated to procedure and primary diagnosis invalid for admission—code numbers 468 and 469, respectively.
- Little correlation exists between resources used for inpatient procedures and those used on an ambulatory basis for the same surgical procedure.
- Development of a PPS for Medicare patients' use of ambulatory care services, including surgery, is feasible and logical. This includes developing a practical working definition of and selecting criteria for such surgery.

BU, in support of the 3M-Health Information Systems (3M-HIS) research developing APGs, provided 3M-HIS with a data base of hospital outpatient claims for a prescribed period of service in fiscal year 1988. The file included not only surgery claims, but also nonsurgery services.

Status: BU has completed its project. All data analysis is complete and prior to submission of the report, BU has submitted several appendixes which provide frequencies of APGs: mean billed charges for each APG; the cost of medical visits through the emergency room, chemotherapy visits, computerized axial tomography scans, magnetic resonance imagings and for medical visits; and industry practice for discounting multiple significant procedures. The results of these appendixes will be formulated into an overall evaluation of the APG system. The final report entitled "The Evaluation of the Development of a Prospective Payment System for Hospital-Based Ambulatory Care" has been received and is under review.

Design and Evaluation of a Prospective Payment System for Ambulatory Care

Project No.: 17-C-99369/1
Period: February 1989—January 1991
Funding: $ 550,000
Award: Cooperative Agreement
Awardee: 3M-Health Information Systems
100 Barnes Road
Wallingford, CT 06492
Project Officer: Joseph M. Cramer
Division of Hospital Experimentation
Mandate: Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)

Description: The purpose of this project is to develop a patient classification system that can be used as the basis of payment for an outpatient prospective payment system for Medicare. The payment system must be administratively feasible, implemented with Medicare claims data, and applicable as a basis of payment for facility costs and potentially for physician fees. Another task of the project is to develop a system that can be used for the prospective payment of ambulatory care services in both hospitals and ambulatory surgical centers (ASCs). The major objectives of this project are to:

- Develop ambulatory patient groups (APGs) as a classification system using Medicare outpatient data from hospitals and ASCs.
- Develop APGs that include all nonphysician outpatient facility services in the Medicare claims data and reduce the number of groups.
- Simulate the effects of the APG system as part of developing recommendations for the preferable payment system.
- Create APG systems that include facility payments only.

- Provide analysis and information on prospective payment for outpatient care that will be incorporated in a Report to Congress.

Status: 3M-Health Information Systems (3M-HIS) has finished development of a complete set of APGs along with a set of payment weights. There are 297 APGs, including 145 surgical, 72 ancillary, and 80 medical. The surgical procedure and ancillary test APGs are based on *Current Procedural Terminology, 4th Edition* codes and the medical visit APGs are based on *International Classification of Diseases, 9th Revision, Clinical Modification* diagnosis codes. The APGs will be compatible with both hospital outpatient departments and ASCs. The final report entitled "Design and Evaluation of a Prospective Payment System for Ambulatory Care" is available from the National Technical Information Service, accession number PB91-160754. This project has been completed. The evaluation of the APG system by Brandeis University and The Urban Institute is in process. The evaluation will include analysis of bundling ancillary tests with surgical and medical visits.

Exploring Hospital Outpatient Department Physician Services

Project No.: 99-C-98526/1
Period: August 1989—July 1991
Funding: $ 75,996
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Sherry A. Terrell, Ph.D.
Division of Reimbursement and Economic Studies

Description: The purpose of this project was to identify the utilization patterns and characteristics of Medicare beneficiaries receiving physician services in a hospital outpatient department (HOPD).

Status: This project has been completed. A merged calendar year 1987 5-percent beneficiary hospital outpatient skeleton file and Part B Medicare Annual Data analytic file were used in the various descriptive analyses. Findings show that:

- Slightly over 51 percent of Medicare HOPD users had only one visit in 1987.
- The average Medicare HOPD user made 2.3 visits.
- The average Medicare HOPD user is billed by 2.3 different providers (billing numbers) per year.
- The nature of physician services changed from acute diagnostic services to management of chronic conditions as number of visits increased.
- Like end stage renal disease patients, aged and disabled HOPD users made multiple visits to receive HOPD services on a serial basis.

The final report entitled "Bundling Outpatient Hospital Physician Services: Results and Implications" is available from the National Technical Information Service, accession number PB91-241299.

Analysis of Utilization and Cost Data from Comprehensive Outpatient Rehabilitation Facilities

Project No.: 99-C-98489/9
Period: August 1991—July 1992
Funding: $ 80,890
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Margaret F. Coopey
Division of Long-Term Care Experimentation

Description: The RAND Policy Research Center will provide information on the utilization patterns of comprehensive outpatient rehabilitation facilities (CORFs) including the types of Medicare patients being treated, and the composition and duration of services. The types of patients and the patterns of care for Medicare patients treated in CORFs will also be compared with those receiving outpatient rehabilitation services in other settings including hospital outpatient departments, independent rehabilitation agencies, and home health agencies.

Status: This project is in the early developmental stage.

Capitated Payment Systems

Refinements to the Adjusted Average Per Capita Costs

Determination of Health Maintenance Organization Capitation Rates for Medicare Beneficiaries

Project No.: 17-C-98804/9
Period: September 1985—August 1989
Funding: $ 1,046,935
Award: Cooperative Agreement
Awardee: Kaiser Foundation Research Institute
3505 Broadway, Suite 1112
Oakland, CA 94611
Project Officer: Gerald F. Riley
Division of Beneficiary Studies

Description: The purpose of this project was to investigate the issue of biased selection into health maintenance organizations (HMOs) and the problem of developing a risk-adjustment methodology for HMO payments by using internal data from the Kaiser Foundation Research Institute and data from the Bureau of Data Management and Strategy's Medicare Statistical System. The investigator was to:

- Predict health care costs for groups of stayers and switchers in the fee-for-service sector and an HMO (Kaiser Permanente) and to estimate the degree of selection bias, if any, among HMO enrollees.
- Simulate Medicare capitation rates for an HMO using alternative risk-adjustment methods and compare these rates with the current adjusted average per capita cost (AAPCC) rate.

- Develop and test a risk-adjustment methodology employing cause-specific mortality and hospital morbidity for predicting future aggregate use of medical care services by Medicare beneficiaries enrolled in an HMO.
- Examine the implications of a separate reinsurance program for case-specific expenses above a specified level of alternative risk-adjusted capitation methods.
- Develop a risk-adjustment methodology by using ambulatory morbidity and self-perceived health status for predicting future aggregate use of medical care services by Medicare beneficiaries enrolled in an HMO.

Status: The following articles have been published:

- Hornbrook, M.C., Bennett, M.D., and Greenlich, M.R.: Adjusting the AAPCC for selectivity and selection bias under Medicare risk contracts. *Advances in Health Economics and Health Services Research* 10:111-149. JAI Press, Inc., 1989.
- Hornbrook, M.C., Greenlich, M.R., and Bennett, M.D.: Analytic perspective on data needs of health maintenance organizations. *Health Care Financing Review*. 1986 Annual Supplement, pp 89-94. HCFA Pub. No. 03225. Office of Research and Demonstrations, Health Care Financing Administration. Washington. U.S. Government Printing Office, Dec. 1986.

A draft final report was received in June 1991 and is being reviewed.

A Selectivity Bias Correction for the Medicare Adjusted Average Per Capita Cost

Project No.: 17-C-99040/5
Period: June 1987—October 1990
Funding: $ 499,601
Award: Cooperative Agreement
Awardee: University of Minnesota
School of Public Health
420 Delaware Street, SW., Box 729
Minneapolis, MN 55455
Project Officer: Gerald F. Riley
Division of Beneficiary Studies

Description: The primary objective of the project is to develop a methodology for producing unbiased estimates of the degree of biased selection present among health maintenance organization (HMO) enrollees. The project will go beyond current studies of biased selection by correcting for unobserved as well as observed characteristics of beneficiaries that influence both the beneficiaries' choices of health plan (i.e., HMO or fee for service) and the subsequent amount of resources consumed. The model will produce an unbiased estimate of what a group of HMO enrollees would have cost if they had remained in fee for service; this is how the adjusted average per capita cost is defined.

Status: Researchers have completed beneficiary interviews and have collected claims data for the 12 months following the beneficiary interviews. The project was extended for 15 months to allow time for a full set of claims data to accumulate. A draft final report was received in January 1991. Revisions to the report are currently being made.

Examination of Alternatives to the Adjusted Average Per Capita Cost Geographic Factor

Project No.: 99-C-98526/1
Period: August 1989—July 1991
Funding: $ 59,885
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: James C. Beebe
Division of Beneficiary Studies

Description: The geographic adjuster of the adjusted average per capita cost (AAPCC) is currently a 5-year moving average of the ratio of county costs to national costs. The most recent data entering the 5-year average are 3 years old and the oldest data are 8 years old. Thus, the data used in this approach may not accurately reflect a county's current status. In addition, the data can result in large random year-to-year fluctuations in the local AAPCCs and can dampen any trends toward increasing or decreasing relative costs in an area. More sophisticated time-series methods which may give a more accurate estimate of counties' current costs relative to national costs and Bayesian methods of reducing random fluctuations by combining county data with data from a larger area will be investigated.

Status: A report on a variety of techniques that will be tried was submitted to the Office of Research and Demonstrations. The current 5-year moving average will be compared with:

- A final 3-year moving average model.
- A 5-year double moving average model.
- A double exponential smoothing model.
- A shrinkage (Bayesian) estimator.
- A fixed baseline geographic index.

A final report is expected by the end of 1991.

Evaluation of Diagnostic Cost Group Pilot Demonstration

Project No.: 500-87-0028
Period: September 1988—November 1990
Funding: $ 118,303
Award: Technical Support:
Evaluation of Demonstrations
(See page 82)
Contractor: Mathematica Policy Research, Inc.
P.O. Box 2393
Princeton, NJ 08543-2393
Project Officer: Ronald W. Lambert
Division of Health Systems and Special Studies
Mandate: Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)

Description: The diagnostic cost group (DCG) methodology was an experimental health maintenance organization (HMO) payment system that could have been used by Medicare in place of the adjusted average per capita cost (AAPCC) formula currently in use. Unlike the existing AAPCC, which uses only demographic information for setting premium payments to HMOs, the DCG method also uses diagnostic information from the previous year's hospitalizations of the HMO's current enrollees to determine Medicare payments to the HMO for the current year. The conceptual justification for the DCG approach is that certain reasons for hospitalization are predictably associated with higher levels of future health care needs. This project assessed the operational aspects of the demonstration. Issues addressed were:

- The timeliness and quality of hospitalization data received from HMOs.
- The operational effect on HMOs to participate in the demonstration.
- The capability of the data processing structure at the Health Care Financing Administration (HCFA).

Status: The project was completed and the final report was received in November 1990. Results are as follows:

- Data submitted to HCFA imposed minimal burden because most of the participating HMOs already had hospitalization data in their computer systems.
- Data submitted by some HMOs incorrectly included non-acute care claims and interim bills, potentially resulting in incorrect payments.
- HCFA should incorporate additional data checks into its data processing system and should require HMOs to submit valid provider identifications and patient discharge status for each claim.

In summary, the DCG payment system was found to be operationally feasible but more complex than the AAPCC system. HCFA has decided not to proceed with additional DCG initiatives.

Working Aged Beneficiaries: Program Impacts and Implications for the Adjusted Average Per Capita Cost

Project No.: 99-C-99168/3
Period: August 1989—July 1992
Funding: $ 65,051
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: James C. Beebe
Division of Beneficiary Studies

Description: Because Medicare is the secondary payer for aged persons who are covered by employer medical insurance, the Health Care Financing Administration does not get complete data on the beneficiaries' medical care use and costs. As a result, the health care costs for the working aged are not fully reflected in the calculations that are made to generate the capitation payments to health maintenance organizations (HMOs) under Medicare. HMOs believe that the lack of complete data on the working aged individuals unfairly lowers their capitation rates for all enrollees, given the current method for computing the rates. The Regional Data Exchange System files that will be developed by Project HOPE will be used with the National Medical Expenditure Survey (NMES) to attempt to determine the legitimacy and magnitude of the problem and to identify corrective measures that may be necessary.

Status: The public-use NMES files are not yet available. The project is on hold until the files are available.

Impacts of the Working Aged on Medicare Expenditure Rates

Project No.: 99-C-98526/1
Period: August 1989—July 1991
Funding: $ 54,774
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: James C. Beebe
Division of Beneficiary Studies

Description: Because Medicare is the secondary payer for aged persons who are covered by employer medical insurance, the Health Care Financing Administration does not get complete data on the beneficiaries' medical care use and costs. As a result, the health care costs for the working aged are not fully reflected in the calculations that are made to generate the capitation payments to health maintenance organizations (HMOs) under Medicare. HMOs believe that the lack of complete data on the working aged individuals unfairly lowers their capitation rates for all enrollees, given the current method for computing the rates. The Regional Data Exchange System files that will be developed by Project HOPE will be used with the Current Population Survey from the U.S. Bureau of the Census to attempt to determine the legitimacy and magnitude of the problem and to identify any corrective measures in the ratesetting process that may be necessary.

Status: The 1988 Current Population Survey was used to estimate the percent of the aged population covered by employer insurance. The final report is expected by the end of 1991.

Medicare Insured Groups

Amalgamated Medicare Insured Group

Project No.: 95-C-99171/2
Period: October 1987—December 1991
Funding: $ 168,746
Award: Cooperative Agreement
Awardee: Amalgamated Life Insurance Company
770 Broadway
New York, NY 10003
Project Officer: Ronald W. Deacon, Ph.D.
Division of Health Systems and Special Studies

Mandate: Omnibus Budget Reconciliation Act of 1987 (Public Law 100-203)

Description: The Amalgamated Medicare Insured Group (AMIG) is being developed by the Amalgamated Life Insurance Company (ALICO), administrators of trust funds for the Amalgamated Clothing and Textile Workers Union. The AMIG project will unify all aspects of program administration, including Medicare Parts A and B and Medicare supplemental benefits under the auspices of ALICO. Funding will be provided through a capitated rate paid by the Health Care Financing Administration, employer contributions, and enrollee premiums. By using managed health care systems and provider negotiation leverage resulting from a large retiree population, the AMIG is expected to reduce the cost to all payers.

Status: ALICO has had considerable difficulty securing a health care delivery system that expands its current union-operated outpatient system. The AMIG plans to begin the project in Philadelphia, Pennsylvania, where enrollment will be offered to approximately 8,000 retirees and spouses residing in the area. The AMIG anticipates that enrollment will reach 1,000 within the first year of operation, reaching 3,500 by the end of the demonstration. If the concept proves successful, ALICO expects to add other sites to the demonstration. Possible sites are New York City, New York, and Baltimore, Maryland.

Southern California Edison Company Medicare Insured Group Research and Demonstration Project

Project No.: 95-C-99355/9
Period: February 1989—April 1991
Funding: $ 195,825
Award: Cooperative Agreement
Awardee: Southern California Edison Company
8631 Rush Street
Rosemead, CA 91770
Project Officer: Ronald W. Deacon, Ph.D.
Division of Health Systems and Special Studies
Mandate: Omnibus Budget Reconciliation Act of 1987 (Public Law 100-203)

Description: Southern California Edison (SCE) is a self-insured employer offering health benefits to its retired employees. It operates eight primary care clinics and a large corporate pharmacy. During the feasibility phase of this project, SCE will analyze the historical costs of providing Medicare and supplemental benefits to its retirees and eligible dependents. The information will then be used by SCE to develop experienced-based payment rates which will be reviewed by the Health Care Financing Administration. SCE will develop a retiree benefit package, an encounter data reporting system, and a marketing plan to voluntarily enroll as many retirees as possible.

Status: SCE completed the feasibility study and concluded that the savings expected by implementing a Medicare insured group (MIG) would balance the added expense of managing and administering the program. Because SCE intends to implement managed-care programs among its retirees in the near future, it decided not to proceed with development of an MIG demonstration until the new programs are firmly in place. The cooperative agreement ended in April 1991. A final report is expected in October 1991 and will be sent to the National Technical Information Service.

John Deere and Company Medicare Insured Group Research and Demonstration Project

Project No.: 95-C-99624/5
Period: August 1990—November 1991
Funding: $ 156,421
Award: Cooperative Agreement
Awardee: John Deere and Company
John Deere Road
Moline, IL 61265
Project Officer: Ronald W. Deacon, Ph.D.
Division of Health Systems and Special Studies
Mandate: Omnibus Budget Reconciliation Act of 1987 (Public Law 100-203)

Description: John Deere and Company (Deere) will conduct an initial feasibility study, which includes collecting and analyzing historical trends of the cost and use of Medicare and Deere supplemental retiree benefits. If Deere determines that the Medicare insured group (MIG) concept is a financially feasible venture, it will design the specifics of the MIG demonstration, including the eligible retiree population, benefit package, ratesetting methodology, and approval of the health care delivery system.

Status: Deere completed the feasibility study in August 1991. Managed-care initiatives would reduce Deere's costs for retirees by 7.3 percent, or 2.3 percent more than the amount retained by Medicare. A recommendation in the report is that Deere continue and prepare for implementation of an MIG demonstration in 1992.

Health First Demonstration

Project No.: 95-C-99631/3
Period: December 1990—November 1993
Funding: $ 10,000
Award: Cooperative Agreement
Awardee: The Medical Center of Beaver, PA, Inc.
1000 Dutch Ridge Road
Beaver, PA 15009
Project Officer: Ronald W. Deacon, Ph.D.
Division of Health Systems and Special Studies

Mandate: Omnibus Budget Reconciliation Act of 1987 (Public Law 100-203)

Description: For this project, the Medical Center will pool a group of employers and offer their retirees cost-effective health benefits. This will give small- to medium-sized employers the opportunity to participate in a Medicare insured group that would normally be available to only the very largest employers.

Status: The project is currently in the feasibility phase. The Medical Center is working with several local employers to obtain historical supplemental claims information that will be linked with Medicare data.

Health Maintenance Organizations and Competitive Medical Plans Evaluation and Monitoring

Medicare Payments to Health Maintenance Organizations: Beyond a Local Fee-for-Service Methodology

Project No.: 17-C-99223/3
Period: August 1989—September 1991
Funding: $ 126,770
Award: Cooperative Agreement
Awardee: The Urban Institute
Health Policy Center
2100 M Street, NW.
Washington, DC 20037
Project Officer: James C. Beebe
Division of Beneficiary Studies

Description: This project will investigate whether favorable selection by health maintenance organizations (HMOs) in areas of high HMO penetration affects the health status and cost of those Medicare beneficiaries remaining in the fee-for-service sector. If it does, capitation rates set for HMO enrollees may be too high. If such an effect is found, alternatives to current methods for setting capitation rates in high-penetration areas will be explored.

Status: A final report entitled "HMO Market Share and Its Effect on Local Medicare Costs" describes findings indicating that high levels of HMO enrollment decrease Medicare fee-for-service costs. This report is available from the National Technical Information Service, accession number PB91-173302. A second final report presenting alternatives to the current geographic adjustment has been received and is under review.

Open-Ended Health Maintenance Organizations and Medicare

Project No.: 99-C-99169/5
Period: August 1990—July 1991
Funding: $ 40,500
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Ronald W. Deacon, Ph.D.
Division of Health Systems and Special Studies

Description: A recent innovation in the health maintenance organization (HMO) industry is the "open-ended," or "point-of-service," HMO. For this project, researchers:

- Described how open-ended HMOs are structured in the private sector.
- Described how open-ended HMOs might be structured under Medicare.
- Assessed how open-ended HMOs might be coupled with various behavioral incentives to affect utilization, costs, and outcomes.
- Identified major necessary changes in present Health Care Financing Administration payment and administrative structures in order for Medicare to incorporate the open-ended option in a managed-care system.
- Assessed the regulatory constraints States are likely to impose on open-ended options and how these constraints affect the offering of open-ended products by HMOs contracting with Medicare.
- Discussed the issues that would need to be addressed in designing a demonstration for Medicare open-ended HMOs.

Status: The study has been completed, and a final report on this project is expected in December 1991.

Tax Equity and Fiscal Responsibility Act of 1982 Health Maintenance Organization and Competitive Medical Plan Program Evaluation

Project No.: 500-88-0006
Period: February 1988—February 1992
Funding: $ 3,509,701
Award: Contract
Contractor: Mathematica Policy Research, Inc.
P.O. Box 2393
Princeton, NJ 08543-2393
Project Officer: James P. Hadley
Division of Health Systems and Special Studies
Mandate: Omnibus Budget Reconciliation Act of 1987 (Public Law 100-203)

Description: The evaluation, which will be conducted over a period of 4 years, is designed to examine the impact of the Tax Equity and Fiscal Responsibility Act Health Maintenance Organization and Competitive Medical Plan (TEFRA HMO/CMP) program on the Health Care Financing Administration (HCFA), health care providers, and Medicare beneficiaries. Fifty to 100 plans are included in the evaluation, depending on the area of analysis. The primary analyses to be included in the evaluation relate to:

- The impact of health maintenance organizations (HMOs) and competitive medical plans (CMPs) on enrollee use and cost of service.
- The quality of care delivered by HMOs and CMPs.
- Factors contributing to the beneficiary enrollment decision.
- Impacts of the program on both the HMO and fee-for-service markets.
- HMO operational issues, with a focus on plan viability.

Data for the analyses will come from site visit interviews, HMO files, HCFA data files, and a beneficiary survey. Results from the evaluation will be summarized in annual reports at the end of each of the first 3 years of the study. Details of the research methodology and results will be included in a series of technical reports that relate to specific study topics.

Status: During the first 3 years of the evaluation, researchers examined the availability of HMO data systems, analyzed HMO disenrollment patterns, provided a descriptive analysis of the HMOs participating in the TEFRA HMO/CMP program, analyzed biased selection, and conducted a beneficiary survey. The following reports have been produced and will be available from the National Technical Information Service in early 1992:

- "The Availability of HMO/CMP Data on the Service Utilization and Cost of Medicare Members."
- "Organizational and Operational Characteristics of TEFRA HMOs and CMPs."
- "First Annual Report on the TEFRA HMO and CMP Evaluation."
- "Biased Selection in the TEFRA HMO/CMP Program."
- "Second Annual Report on the TEFRA HMO and CMP Evaluation."

Additional reports that will be produced before the end of the evaluation will include analyses of the issue of HMO profitability, HMO participation in rural areas, use and cost of services, quality of care, and enrollee satisfaction.

Post-Health Maintenance Organization Disenrollment Utilization Study

Funding:	Intramural
Project Director:	Ruth B. Pickard, Ph.D. Division of Health Systems and Special Studies

Description: For this study, disenrollments from 38 risk contract health maintenance organizations (HMOs) were examined during the first year of the Tax Equity and Fiscal Responsibility Act's implementation. Using person-level files, use, cost, and mortality data for May-December 1985 were used to make comparisons between pre- and post-disenrollment utilization patterns of the study group and those of two matched comparison groups: beneficiaries having continuous HMO enrollment and those in the fee-for-service (FFS) sector.

Status: Taking into account prior utilization, health status, length of survival, and standard beneficiary demographic information, service costs for disenrollees in the year following disenrollment were found to be no different than for those in the FFS sector. Those among service utilizers who joined and subsequently left these HMOs had lower costs and service intensity in the year prior to enrollment than did either the continuous enrollees or those with no HMO experience. Following disenrollment, however, the disenrollees were hospitalized more rapidly than were their FFS counterparts. This evidence suggests that some beneficiaries may have left the plans in need of care. Because all enrollments in the study were brief, it is not clear whether such persons had pent-up needs when they chose to enroll in an HMO. A report describing the findings of this study was prepared and is being circulated for comment.

Other Studies

Developing the Design for a Demonstration of Medicare Payment for Community Nursing Organizations

Project No.:	99-C-99168/3
Period:	August 1988—July 1992
Funding:	$ 326,409
Award:	Cooperative Agreement
Awardee:	Project HOPE Research Center (See page 80)
Project Officer:	Margaret F. Coopey Division of Long-Term Care Experimentation
Mandate:	Omnibus Budget Reconciliation Act of 1987 (Public Law 100-203)

Description: The purpose of this project is to assist the Health Care Financing Administration in designing a demonstration project (consisting of at least four sites) to provide payment to community nursing organizations (CNOs) for home health services, durable medical equipment, and certain ambulatory care furnished to Medicare beneficiaries on a prepaid, capitated basis. Public Law 100-203 specifies that two different capitated payment methods must be implemented in the demonstration. Before the implementation of the demonstration, detailed planning and development of the project design elements required by the congressional mandate must be undertaken. These include:

- Establishing organizational requirements and standards for CNOs.
- Developing a detailed methodology for computing payment rates.
- Preparing an implementation plan for the demonstration which includes developing site selection criteria, quality assurance mechanisms, and marketing strategies appropriate for these sites; criteria for evaluating site proposals; selecting

demonstration sites; and preparing an evaluation strategy.

Status: The basic elements of the demonstration design have been completed. A Request for Proposal to develop demonstration sites was issued in September 1991, and contracts to the project sites are scheduled to be awarded in April 1992.

Quality Assurance Systems in Health Maintenance Organizations

Project No.: 99-C-99169/5
Period: August 1991—July 1992
Funding: $ 99,406
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Ronald W. Deacon, Ph.D.
Division of Health Systems and Special Studies

Description: For this study, the University of Minnesota will investigate exemplary quality assurance (QA) programs in health maintenance organization (HMOs) to ascertain important characteristics of the programs and factors contributing to their success. It will define what makes a QA program exemplary, perform case studies of identified programs, and synthesize the descriptions into a set of recommendations which other HMOs could adopt in developing or improving their QA systems.

Status: This project is in the early developmental stage.

What Makes Successful Medicaid Health Maintenance Organizations Work?

Project No.: 99-C-98526/1
Period: August 1991—July 1992
Funding: $ 74,712
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Ronald W. Deacon, Ph.D.
Division of Health Systems and Special Studies

Description: This study will consist of case analyses of five health maintenance organizations (HMOs) that have had successful experiences contracting with Medicaid. Success will be determined by enrollment of a large percentage of local Medicaid recipients and stability or growth in enrollment over an extended period. Aspects of the case studies to be examined are: goals and intentions of participants, terms of relationships between parties, contract monitoring and reporting, and relationships with enrollees. Other key issues associated with HMO contracting will also be addressed, including: reimbursement, marketing, and administration.

Status: This project is in the early developmental stage.

Alternatives to Fee for Service as a Base for Health Maintenance Organization Premium Setting

Project No.: 99-C-99169/5
Period: August 1989—July 1990
Funding: $ 54,939
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: James C. Beebe
Division of Beneficiary Studies

Description: Currently, health maintenance organizations (HMOs) that enroll Medicare beneficiaries under the Tax Equity and Fiscal Responsibility Act risk contracts are reimbursed 95 percent of the eligible costs the enrollees would have incurred if they had remained in the fee-for-service (FFS) sector. This approach of linking HMO payments to FFS costs has been criticized on both conceptual and technical grounds. The purpose of this project was to develop, analyze, and report on alternative methods of reimbursing HMOs for the care of Medicare beneficiaries.

Status: The final report entitled "Issues Regarding Health Plan Payments Under Medicare and Recommendations for Reform" is expected to be available from the National Technical Information Service in fall 1991.

Analysis of Implementation Issues Related to a Capitated Acute and Long-Term Care Service Delivery System

Project No.: 99-C-98526/1
Period: August 1991—July 1992
Funding: $ 99,822
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Nancy A. Miller, Ph.D.
Division of Long-Term Care Experimentation
Mandates: Deficit Reduction Act of 1984 (Public Law 98-369)
Omnibus Budget Reconciliation Act of 1987 (Public Law 100-203)
Omnibus Budget Reconciliation Act of 1990 (Public Law 101-508)

Description: The purpose of this project is to analyze issues related to marketing strategies, reimbursement rates and mechanisms, site selection criteria, and site operational protocols for a capitated acute and long-term care service delivery system.

Status: This project is in the early developmental stage.

Evaluation of the Prepaid Managed Health Care Demonstration

Project No.: 99-C-98489/9
Period: September 1985—August 1991
Funding: $ 2,289,003
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Arne H. Anderson
Division of Health Systems and Special Studies

Description: The RAND Policy Research Center is conducting an independent evaluation of the cost effectiveness of the prepaid managed health care demonstration. This demonstration project is sponsored by the Robert Wood Johnson Foundation, the National Governors' Association, and the Health Care Financing Administration. The demonstration is designed to enable health care providers to develop more efficient arrangements for the financing and delivery of health services. Most projects are limited to Medicaid and utilize prospective payment and case management.

Status: RAND is focusing its evaluation on two sites—Lutheran Medical Center, Brooklyn, New York; and Jackson Memorial Hospital, Miami, Florida. The key element of RAND's research design is the random assignment of Medicaid clients to either the health maintenance organization demonstration or the fee-for-service setting. All clients have been enrolled in the study and their health care expenditures have been monitored. A final cost-effectiveness report is expected by the end of calendar year 1991.

Analysis of Availability of Person-Specific Data for Medicaid Managed-Care Delivery Systems

Project No.: 99-C-98526/1
Period: August 1991—July 1992
Funding: $ 99,828
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Ronald W. Deacon, Ph.D.
Division of Health Systems and Special Studies

Description: For this study, researchers will assess, in States with the largest enrollment of Medicaid recipients in capitated health plans, the availability, completeness, and accuracy of the person-level data maintained by State and/or health plans. Findings will include whether the data can be used to analyze the cost effectiveness and quality of care delivered through Medicaid managed-care systems. Finally, the researchers will recommend data requirements that might be suggested for future Medicaid managed-care programs.

Status: This project is in the early developmental stage.

Social Health Maintenance Organization Project for Long-Term Care

Period: August 1984—December 1995
Award: Grants
Project Officer: Phyllis A. Nagy
Division of Long-Term Care Experimentation

Mandates: Deficit Reduction Act of 1984 (Public Law 98-369)
Omnibus Budget Reconciliation Act of 1987 (Public Law 100-203)
Omnibus Budget Reconciliation Act of 1990 (Public Law 101-508)

Description: In accordance with Section 2355 of Public Law 98-369, this project was developed and is currently implementing the concept of a social health maintenance organization (S/HMO) for acute and long-term care. A S/HMO integrates health and social services under the direct financial management of the provider of services. All services are provided by or through the S/HMO at a fixed annual prepaid capitation sum. Four sites have been selected to participate in this project.

Status: Of the four S/HMO demonstration sites selected, two are HMOs that have added long-term care services to their existing service packages and two are long-term care providers that have added acute care service packages. The demonstration sites utilize Medicare and Medicaid waivers, and all initiated service delivery by March 1985. During the first 30 months of operation, Federal and State governments shared financial risk with the sites. This risk sharing ended August 31, 1987. This demonstration was extended twice by legislation. The current legislation (Public Law 101-508) extends the demonstration period through December 31, 1995. The S/HMO sites are:

Elderplan, Inc.
Project No.: 95-P-09101/2
Grantee: Elderplan, Inc.
6323 Seventh Avenue
Brooklyn, NY 11220

Seniors Plus
Project No.: 95-P-09102/5
Grantee: Group Health, Inc., and Ebenezer Society
2829 University Avenue, SE.
Minneapolis, MN 55414

Medicare Plus II
Project No.: 95-P-09103/0
Grantee: Kaiser-Permanente Center for Health Research
4610 Southeast Belmont Street
Portland, OR 97215-1795

SCAN Health Plan
Project No.: 95-P-09104/9
Grantee: Senior Care Action Network
521 East Fourth Street
Long Beach, CA 90802

Evaluation of Social Health Maintenance Organization Demonstrations

Project No.: 500-85-0042
Period: September 1985—July 1991
Funding: $ 3,533,396
Award: Contract
Contractor: Institute for Health and Aging
University of California, San Francisco
201 Filbert Street
San Francisco, CA 94133
Project Officer: Nancy A. Miller, Ph.D.
Division of Long-Term Care Experimentation
Mandates: Deficit Reduction Act of 1984
(Public Law 98-369)
Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)
Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: The social health maintenance organization (S/HMO) seeks to enroll, voluntarily, persons 65 years of age or over in an innovative prepaid program that integrates medical, social, and long-term care delivery systems. The S/HMO merges the health maintenance organization concepts of capitation financing and provider risk sharing developed by the Health Care Financing Administration under its Medicare capitation and competition demonstrations with the case management and support services concepts underlying the long-term care demonstrations serving the chronically ill aged, which are sponsored by the Department of Health and Human Services.

Status: An interim report was forwarded to Congress in August 1988. A copy of the report, "Evaluation of the Social/Health Maintenance Organization Demonstration," may be obtained from the National Technical Information Service (NTIS), accession number PB89-215446. The evaluation and data collection plan for the demonstration is available from NTIS as a technical appendix and may be obtained by using accession number PB89-191779. The data collection phase has been completed. Data analysis will be completed in fall 1991. Preliminary findings regarding biased selection in enrollment and case management were presented at the 1990 American Public Health Association Annual meeting. The results of this evaluation will provide the basis for the second interim report due to Congress by March 1993 as mandated by Public Laws 100-203 and 101-508.

Suitability of Grade of Membership Techniques to Correct for Selection Bias in the Social Health Maintenance Organization Evaluation

Project No.: HCFA-91-0471
Period: March 1991—June 1991
Funding: $ 2,500
Award: Contract
Contractor: Roger D. Feldman
Division of Health Services Research and Policy
School of Public Health
University of Minnesota
420 Delaware Street, SW., Box 729
Minneapolis, MN 55455
Project Officer: Nancy A. Miller, Ph.D.
Division of Long-Term Care Experimentation
Mandates: Deficit Reduction Act of 1984
(Public Law 98-369)
Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)
Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: The purpose of this project is to provide technical advice in assessing the suitability of grade of membership (GoM) analysis to correct for selection bias in the social health maintenance organization demonstration evaluation.

Status: This project has been completed. A final report entitled "Suitability of Grade of Membership Techniques to Correct for Selection Bias in the Social Health Maintenance Organization Evaluation" has been received, accepted, and is being sent to the National Technical Information Service. The researchers concluded that although GoM is an innovative and useful method of data reduction, it does not correct for selection bias in the S/HMO evaluation analyses. They further recommend that the effects of selection bias be tested for and, if feasible, corrected in the evaluation analyses.

Design of the Second Generation Social Health Maintenance Organization

Project No.: 99-C-98526/1
Period: July 1991—February 1992
Funding: $ 285,660
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Nancy A. Miller, Ph.D.
Division of Long-Term Care Experimentation
Mandates: Deficit Reduction Act of 1984
(Public Law 98-369)
Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)
Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: Section 4207(b)(4) of Public Law 101-508 requires approval of not more than four additional social health maintenance organization (S/HMO) sites. The

purpose of these second generation S/HMO sites is to refine the targeting and financing methodologies and benefit design of a S/HMO. For this study, researchers are to analyze design issues (including recommendations) associated with the development of one or more models of the second generation S/HMOs.

Status: This project is in the early developmental stage.

Study of the Second Generation Social Health Maintenance Organization

Project No.: 99-C-99169/5
Period: July 1991—March 1992
Funding: $ 100,000
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Nancy A. Miller, Ph.D.
Division of Long-Term Care Experimentation
Mandate: Deficit Reduction Act of 1984 (Public Law 98-369) (Amended by Section 4018 of the Omnibus Budget Reconciliation Act of 1986, Public Law 100-203, and Section 4207(b)(4) of the Omnibus Budget Reconciliation Act of 1990, Public Law 101-508)

Description: In accordance with Section 2355 of Public Law 98-369, the concept of a social health maintenance organization (S/HMO) for acute and long-term care is being implemented. The purpose of this project is to conduct an analysis of the conditions and considerations related to participation in a S/HMO by providers, insurers, consumers, and State Medicaid agencies.

Status: This project is in the early developmental stage.

Primary Care Case Management Evidence from Medicaid: Synthesizing Program Effects by Program Design

Project No.: 18-C-99641/3
Period: July 1990—June 1991
Funding: $ 80,233
Award: Cooperative Agreement
Awardee: Virginia Commonwealth University
Medical College of Virginia
P.O. Box 206
Richmond, VA 23298-0568
Project Officer: Ruth B. Pickard, Ph.D.
Division of Health Systems and Special Studies

Description: For this study, researchers summarized and synthesized accumulated descriptive and empirical evidence of 25 previously evaluated Medicaid primary care case management programs in 17 States. They refined a typology for use in classifying and interpreting such findings. Six key program features (type of enrollment, organizational approach, case manager participation, range of case management service responsibility, case management payment method, and payment method for other providers) were used to analyze the extant programs according to a range of alternative approaches found on each feature. These key attributes were then linked with evidence on program effects such as expenditures, utilization, access, beneficiary satisfaction, provider satisfaction, financial incentives, quality of care, and provider participation.

Status: This project has been completed. The resulting draft final report finds that primary care case management is able to achieve modest program savings and generally desirable, if limited, changes in utilization patterns. It suggests that concerns about the negative implications of restricting freedom of choice are unjustified. It concludes with a chapter that identifies a number of important questions toward which future research should be addressed. The final report is expected in October 1991.

Minnesota Prepaid Medicaid Demonstration

Project No.: 11-C-98223/5
Period: June 1982—June 1995
Funding: $ 349,421
Award: Cooperative Agreement
Awardee: Minnesota Department of Public Welfare
2nd Floor—Space Center
444 Lafayette Road
St. Paul, MN 55101
Project Officer: Ronald W. Deacon, Ph.D.
Division of Health Systems and Special Studies

Description: The Minnesota Department of Public Welfare was awarded a cooperative agreement to develop a prepaid capitation demonstration project for the eligible Medicaid population in three counties—one urban, Hennepin; one suburban, Dakota; and one rural, Itasca. For all counties, the per capita payment will be calculated based on the average fee-for-service (FFS) cost per eligible person in the program in each county. This rate will be paid to competing health plans that organize to provide services to Medicaid recipients within the urban and suburban counties. A rate-cell approach is being used to pay capitation rates. The cells incorporate adjustments for age, sex, category of eligibility, county of residence, and institutional and Medicare status. The capitation rate for recipients under Aid to Families with Dependent Children will be 90 percent of the FFS costs. For Supplemental Security Income recipients, the rate will be 95 percent of the FFS costs. The counties have chosen to bear both the risk and responsibility of providing these services. The rural county, Itasca, will not have competing plans. The capitation will go to Itasca County, which has contracted with Health Maintenance Organization of Minnesota for claims processing and management services. Health Maintenance Organization of Minnesota will coordinate the case management and utilization controls and will supervise local providers in delivering services to the Medicaid population.

Status: The State submitted an operational protocol that was approved by the Health Care Financing Administration in September 1985. The implementation phase began in Itasca County in September 1985 and in Hennepin and Dakota Counties in December 1985. There are presently five participating competing plans in Hennepin and Dakota Counties. Initial enrollment was slower than anticipated because recipients failed to make choices (30 percent assignment rate); however, enrollment is now at 60,000. During 1991, enrollment was extended to the entire eligible population of Hennepin County. During the next year, the State intends to extend enrollment to a fourth county, Ramsay County. This project was included in an earlier evaluation conducted by Research Triangle Institute. The demonstration was scheduled to end in December 1988, but Congress has extended it until June 1995.

Municipal Health Services Program

Period: August 1979—December 1993
Participants: Baltimore, MD
Cincinnati, OH
Milwaukee, WI
San Jose, CA
Project Officer: Ronald W. Deacon, Ph.D.
Division of Health Systems and Special Studies

Description: Development of the Municipal Health Services Program (MHSP) was a collaborative effort of four major cities in four States, the U.S. Conference of Mayors, the American Medical Association, the Robert Wood Johnson Foundation (RWJF), and the Health Care Financing Administration (HCFA). It was initiated by RWJF through grants of $3 million awarded in June 1978 to each of the following four cities: Baltimore, Cincinnati, Milwaukee, and San Jose. HCFA joined the project by providing Medicare and Medicaid waivers to test the effects of increased utilization of municipal health centers by:

- Eliminating coinsurance and deductibles.
- Expanding the range of covered services.
- Paying the cities the full cost of delivering services at the clinics.

The intent of the waivers is to shift fragmented utilization from costly hospital emergency rooms and outpatient departments toward lower cost MHSP clinics that would provide beneficiaries with comprehensive primary and preventive health care.

Status: HCFA contracted with the University of Chicago's Center for Health Administration Studies (CHAS) to perform a detailed evaluation of cost and utilization. CHAS determined in its final evaluation report that the MHSP improved access to health services. The analysis also indicated that MHSP clients in the Medicare program had significantly lower inpatient and total health care expenditures than a comparison group, after adjusting for predisposing, enabling, and need variables. Since 1986, the MHSP has experienced a significant increase in costs and utilization. The 1989 fiscal year (FY) costs were $32 million, compared with $14 million in FY 1985. Approximately 29,000 individuals were served in 1987. In FY 1989, 37,023 patients received MHSP services. MHSP waivers were scheduled to terminate on December 31, 1984; however, HCFA agreed to extend the Medicare waivers 1 additional year, through December 1985. With the passage of the Omnibus Budget Reconciliation Act (OBRA) of 1989, the demonstrations were extended to December 31, 1993. In addition, OBRA 1989 mandated that an independent evaluation regarding program cost effectiveness, beneficiary costs, quality of care, and other relevant factors be undertaken and that the findings of the evaluation be submitted in a Report to Congress.

Evaluation of the Municipal Health Services Program

Project No.: 500-87-0028
Period: September 1990—December 1992
Funding: $ 555,928
Award: Technical Support: Evaluation of Demonstrations
(See page 82)
Contractor: Mathematica Policy Research, Inc.
P.O. Box 2393
Princeton, NJ 08543-2393
Project Officer: Ronald W. Deacon, Ph.D.
Division of Health Systems and Special Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: This project will evaluate the four Municipal Health Services Program (MHSP) demonstrations to determine cost effectiveness, beneficiary costs, and the quality of health services delivered in the MHSP clinics. It will be undertaken in two phases. In Phase I, an intensive case study will be completed which will describe the organization and delivery of MHSP services and assess program operations to determine if the original goals and objectives of the demonstration continue to be met. The results of this phase will primarily describe the current process used by MHSP sites to serve the medical needs of its users. In Phase II of the evaluation, Medicare costs, quality of care, and the cost effectiveness of the demonstration will be determined. The cost and utilization experience for MHSP users will be compared with those of a control group for the years 1987, 1988, and 1989. The results of the evaluation will be presented in a Report to Congress in 1993.

Status: A draft report of the Phase I study was received in August 1991, and a final Phase I report is expected by December 1991.

Evaluation of Medicare Health Maintenance Organization Demonstration Projects

Funding: Intramural
Project Director: Gerald F. Riley
Division of Beneficiary Studies

Description: This study evaluates demonstration projects undertaken to encourage health maintenance organizations (HMOs) to participate in the Medicare program under a risk mechanism. Three demonstration HMOs are included in the study—Fallon Community Health Plan, Greater Marshfield Community Health Plan, and Kaiser-Permanente of Portland, Oregon. The study includes 18,085 aged Medicare beneficiaries who had enrolled in the plans as of April 1981. Also included are comparison groups from a random sample of aged Medicare beneficiaries living in the same geographic areas as the HMO enrollees. The evaluation examines issues such as biased selection, patterns of prior and post-enrollment use by HMO enrollees, and comparisons of use and expenditure patterns by HMO and non-HMO beneficiaries.

Status: The following published works include findings from this study:

- Kasper, J.D., Riley, G.F., McCombs, J.S., and Stevenson, M.A.: Beneficiary selection, use, and charges in two Medicare capitation demonstrations. *Health Care Financing Review* 10(1):37-49. HCFA Pub. No. 03274. Office of Research and Demonstrations, Health Care Financing Administration. Washington. U.S. Government Printing Office, Fall 1988.
- Kasper, J.D., Riley, G.F., and McCombs, J.S.: Capitation and Medicare: Past, present and future. In Pauly, M.V., and Kissick, W.L., eds. *Lessons from the First 20 Years of Medicare*. Pennsylvania. University of Pennsylvania Press, 1988.
- McCombs, J.S., Kasper, J.D., and Riley, G.F.: Do HMOs reduce health care cost? A multivariate analysis of two Medicare HMO demonstration projects. *Health Services Research* 25(4):593-613, Oct. 1990.
- Riley, G., Rabey, E., and Kasper, J.: Biased selection and regression toward the mean in three Medicare HMO demonstrations: A survival analysis of enrollees and disenrollees. *Medical Care* 27(4):337-347, Apr. 1989.

A paper written by J.D. Kasper and G.F. Riley entitled "Satisfaction with Medical Care among Elderly People in Fee-for-Service Care and an HMO" is expected to be published soon.

United Mine Workers of America Demonstration

Project No.: 95-C-99643/3
Period: July 1990—June 1993
Award: Cooperative Agreement
Awardee: UMWA Health and Retirement Funds
2021 K Street, NW.
Washington, DC 20006
Project Officer: Ronald W. Lambert
Division of Health Systems and Special Studies

Description: The United Mine Workers of America Health and Retirement Funds (the Funds) is a waiver-only demonstration which provides a risk-based capitated payment for the Funds' Medicare-eligible retirees and dependents. The capitated payment replaces the Funds' cost-based health care prepayment plan arrangement. Approximately 100,000 Medicare eligibles are currently covered by the demonstration. This demonstration affords the Health Care Financing Administration the opportunity to test the ability of a large multiemployer trust to administer and contain costs under a risk-based Medicare Part B capitation arrangement.

Status: The cooperative agreement for this demonstration was awarded March 20, 1991. Capitated payments were effective July 1, 1990, and were updated for the period July 1, 1991, through June 30, 1992.

Evaluation of United Mine Workers of America Demonstration

Project No.: 500-87-0030
Period: June 1991—June 1994
Funding: $ 385,597
Award: Technical Support: Evaluation of Demonstrations
(See page 82)
Contractor: Abt Associates, Inc.
55 Wheeler Street
Cambridge, MA 02138-1168
Project Officer: Ronald W. Lambert
Division of Health Systems and Special Studies

Description: For this project, the contractor will evaluate the United Mine Workers of America (UMWA) Health and Retirement Funds (the Funds) Medicare Part B capitation demonstration. This 3-year demonstration replaces the Funds' Health Care Prepayment Plan arrangement with the Health Care Financing Administration (HCFA), in which it is reimbursed for Medicare Part B services on a cost basis. In its place, the Funds will assume risk for Medicare Part B services under a capitated payment mechanism. The issues to be addressed are:

- An assessment of the cost effectiveness of capitation based on an analysis of changes in utilization and cost resulting from the demonstration.
- An assessment of changes in access to care and beneficiary satisfaction resulting from the demonstration.
- A detailed case study describing the cost-management programs and changes occurring in the organization as a result of the demonstration.

Status: The evaluation design is being finalized. Preliminary meetings between HCFA, UMWA, and Abt Associates have taken place.

Beneficiary Incentives to Choose Alternative Health Plans

Project No.: 99-C-98489/9
Period: May 1986—July 1991
Funding: $ 422,309
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Armen H. Thoumaian, Ph.D.
Division of Hospital Experimentation

Description: For this project, the objective is to estimate how various design features of alternative payment systems for Medicare affect beneficiaries' decisions to remain in the traditional program or to join an alternative health system. Using a mail survey, RAND is studying the preferences of beneficiaries for various hypothetical health plans to create an economic model of beneficiary choice.

Status: The design for this study was published in March 1988 as a RAND NOTE entitled "Beneficiary Incentives to Participate in Alternative Health Plans: A Research Design" and is available from RAND (N-2733-HCFA). Field work on the survey, which began in June 1988, was completed in December 1988. A total of 1,047 interviews were completed, representing 43 percent of the eligible sample. Data from the survey were linked with Medicare files to create the analytic data file necessary for the creation of an economic model of beneficiary preference. A general economic model was completed in March 1990. The draft final report was received in May 1991. The final report is expected in fall 1991.

Hospital Payment

Prospective Payment System Refinements

Alternatives for Recalibrating Diagnosis-Related Group Relative Weights

Project No.: 99-C-98489/9
Period: August 1991—July 1992
Funding: $ 96,293
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Philip G. Cotterill, Ph.D.
Division of Reimbursement and Economic Studies

Description: The purpose of this project is to compare diagnosis-related group weights that are calculated by using the hospital-specific relative value methodology with those using the standard methodology. The hospital-specific relative value methodology differs from the standard method in that hospital charges are not standardized by using fixed-payment factors such as teaching and disproportionate share. Instead, hospital charges are standardized at the hospital level using hospital-specific charges (controlling for the hospital's case-mix index). The goal is to understand how the differences in methods affect the weights.

Status: This project is in the early developmental stage.

Geographic Variation in Hospital Nonlabor Input Prices and Expenses

Project No.: 99-C-98526/1
Period: August 1991—July 1992
Funding: $ 66,597
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: William L. England, Ph.D.
Division of Reimbursement and Economic Studies

Description: The purpose of this project is to investigate the merit, feasibility, and potential implications of a geographic adjustment for payment of nonlabor expenses under Medicare's prospective payment system. Data sources to be assessed include collection of primary or secondary data on nonlabor input prices or the use of proxy variables to measure variation in nonlabor prices. A second and related objective of this research is to study geographic variation in hospital nonlabor expense per discharge, comparing and correlating it with variation in labor expense per discharge. Multivariate analysis, using such independent variables as input prices, case-mix or wage index differences, hospital, area, or weather characteristics, or other factors, will be used to attempt to explain variation in nonlabor expenses.

Status: This project is in the early developmental stage.

Measuring Components of Case-Mix Change

Project No.: 99-C-98489/9
Period: August 1989—July 1991
Funding: $ 189,666 (Prospective Payment Assessment Commission's share of funding is $ 76,000)
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: John T. Petrie
Division of Reimbursement and Economic Studies
Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: The case-mix index (CMI) measures the relative costliness of a group of Medicare patients. Theoretically, increases in the CMI can be separated into real increases or coding changes. Real increases are caused by increases in the severity of illness in the patient population or by changes in the treatment patients receive. This study separately measured changes in the CMI from 1987 to 1988 that resulted from real and coding changes. As a subcontractor to the project,

SysteMetrics/McGraw-Hill abstracted a sample of Medicare hospital discharges for this analysis.

Status: This study is similar to the RAND study, "Analysis of Case-Mix Growth Among Hospitals," conducted in 1988-89, which covered the increase in the CMI from 1986 to 1987. RAND is currently working on a report entitled "Has Creep Crept Up? Adjusting the Rate Medicare Pays Hospitals." The final report is expected late 1991.

Do Low-Income Patients Have Costlier Hospital Stays?

Project No.: 99-C-98489/9
Period: August 1990—July 1992
Funding: $ 72,768
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Brigid Goody
Division of Reimbursement and Economic Studies
Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: The purpose of this study is to provide new information about the effect of low-income patients on hospital resource use. Using 1988 Medicare provider analysis and review claims, RAND will test the null hypothesis that low-income patients do not have costlier stays than their non-low-income counterparts, controlling for diagnosis-related group (DRG) and the hospital where they are treated. If any higher cost is found for low-income patients, either in all or in a subset of hospitals, the study will suggest the magnitude of the prospective payment system adjustment that would be supported by this severity argument alone.

Status: The data set for this study has been created. Preliminary results indicate that low-income patients are most costly, but only in certain DRGs. Final results are expected in December 1991.

Development of Patient Origin and Transfer Data

Project No.: 99-C-99168/3
Period: August 1990—August 1991
Funding: $ 10,006
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: William Buczko, Ph.D.
Division of Reimbursement and Economic Studies
Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: In the 1988 and 1989 budget years, patient origin and transfer files were designed and developed using Medicare provider analysis and review data for fiscal years (FYs) 1984-88 to examine activity in Medicare hospitals. This task extends that work to construct similar files for FY 1989. These files will support longitudinal analyses of rural and urban inner city health care issues. Studies will include changes in patterns of hospital referrals and patient transfers, the impact on access where rural and urban inner city hospitals have closed, and changes in the structure of the hospital industry in specific market areas.

Status: FY 1991 data files have been completed. Final file documentation is currently being processed. Data files and documentation are expected late fall 1991.

Monitoring Hospital Productivity

Project No.: 99-C-98526/1
Period: August 1991—July 1992
Funding: $ 70,000
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Edgar A. Peden, Ph.D.
Division of Reimbursement and Economic Studies

Description: This project continues work done under project number 99-C-98526/1, Monitoring Hospital Costs and Productivity, period August 1990—July 1991; awardee, Brandeis University Research Center. Its purpose is to present a descriptive analysis of data for the period 1965-91 and in this context to monitor changes in hospital revenues and costs, input intensity, hospital wages and employment, capital inputs, and productivity. The data to be used come from various sources including the Health Care Financing Administration, other government agencies, the American Hospital Association, and other sources.

Status: This project is in the early developmental stage.

Graduate Medical Education Payment

Project No.: 99-C-98526/1
Period: August 1990—January 1991
Funding: $ 49,000
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: John T. Petrie
Division of Reimbursement and Economic Studies
Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: First, Brandeis assembled information on the strengths and weaknesses of the previous system of paying for the costs of graduate medical education (GME) and the recently implemented mechanism. This step entailed an understanding of whether the level of funding is appropriate (excessive or insufficient) and whether it is allocated and targeted optimally. Second, it was necessary to evaluate current approaches aimed at achieving the indirect goals of the payment program. This step entailed a critical look at such problems as

physician location maldistribution, overemphasis on specialty and in-hospital care, underemphasis on preventive and geriatric care, and failure to attract sufficient numbers of minorities and individuals from other disadvantaged backgrounds into the medical profession. Third, the researchers reviewed the current GME system in order to suggest alternative payment mechanisms.

Status: This project has been completed. A final report entitled "Models for Financing Graduate Medical Education Under Medicare" was prepared. The report provides a literature review of GME and five models for financing GME:

- The Medicare Part A model.
- The Medicare Part B model.
- A funds transfer model for targeted GME grants, contracts, loans, and scholarship programs.
- The regulatory model.
- The provider tax model.

Examination of Alternative Approaches for Graduate Medical Education Payment through Medicare

Project No.: 99-C-99168/3
Period: August 1990—January 1991
Funding: $ 34,928
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: John T. Petrie
Division of Reimbursement and Economic Studies
Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: The objectives of this task were to analyze Medicare's methodology of payment for direct and indirect graduate medical education (GME) costs and to recommend alternative payment options. The project provided a comprehensive review of the literature regarding GME payment, and a description and analysis of the feasibility of deriving and implementing four alternative approaches.

Status: This project has been completed. The researchers prepared a report entitled "Alternative Approaches for Graduate Medical Education Payment Through Medicare: Background, Issues, and Options." The paper addresses four approaches:

- Direct medical education and indirect medical education remain as separately calculated reimbursements, but each is altered to a capitated method of payment.
- Direct medical education and indirect medical education remain as separately calculated reimbursements, but reimbursement incentives are changed to meet access and distribution objectives.
- A capitation payment method where direct medical education and indirect medical education are combined into a single, per resident payment base.
- Residents are capitated based on a national average stipend, and, in addition, the faculty is allowed to bill separately under Medicare Part B.

Assessment of Recent Changes in Prospective Payment System Outlier Policy

Project No.: 99-C-98489/9
Period: August 1990—July 1991
Funding: $ 80,473
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Sheila M. O'Dougherty
Division of Reimbursement and Economic Studies
Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: Under this project, RAND will compare the outcomes of the fiscal year (FY) 1989 outlier policy with the outcomes of the FY 1988 outlier policy with respect to the financial protection they afford hospitals and the distribution of outlier payments among high-cost cases, patient groups, and hospital groups. RAND will also estimate changes in hospital behavior in response to the FY 1989 outlier policy change. Finally, it will estimate the effect of various additional changes in outlier policy, making recommendations as necessary.

Status: Preliminary findings for this project show that the change in outlier policy from FY 1988 to FY 1989 succeeded in concentrating outlier funds on the costliest cases. The problem of profitable outlier cases, the financial risk that hospitals face under the prospective payment system, and the formulas for computing day outlier payments and cost outlier thresholds are topics that will be addressed in the final report. The report is expected in November 1991.

Assessment of Potential Refinements to the Prospective Payment System Outlier Payment Policy

Project No.: 99-C-98489/9
Period: August 1991—July 1992
Funding: $ 100,601
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Sheila M. O'Dougherty
Division of Reimbursement and Economic Studies

Description: Under this project, RAND will assess potential changes in outlier policy with respect to the financial protection each policy affords to hospitals and the distribution of outlier payments among high-cost cases, patient groups, and hospitals. The changes to be assessed include alternative methods of reimbursement for capital expenses related to outlier cases, expansion of the outlier pool, changes in the form of the day outlier per diem payment, changes in the definition of the cost outlier threshold, and elimination of the

standardization of charges for teaching and disproportionate share payments.

Status: This project is in the early developmental stage.

Impact of the Growth in Ambulatory Procedures and Diagnostic Services on Inpatient Care

Project No.: 99-C-99168/3
Period: August 1990—July 1992
Funding: $ 39,892
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Philip G. Cotterill, Ph.D.
Division of Reimbursement and Economic Studies
Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: The overall goal of this project is to increase our understanding of the links between provision of ambulatory services, especially diagnostic procedures, and utilization of hospital inpatient services. This objective will be accomplished by studying the incentives faced by each of the major participants in the health services market—patients, hospitals, physicians, and independent providers of diagnostic services—and the effects of such incentives on decisions about capacity to provide ambulatory services.

Status: A draft report was received August 1, 1991, entitled "Impact of the Growth in Ambulatory Procedures and Diagnostic Services Upon Inpatient Care." The report includes a description of the incentives affecting the growth of ambulatory procedures, conceptual models showing incentives for investing in ambulatory capacity and subsequent utilization of inpatient care, a review of data sources which might be used to test the models, and a preliminary empirical analysis plan. The report is currently under review.

Prospective Payment System Impact

Prospective Payment System Studies

Project No.: 500-88-0035
Period: June 1988—June 1991
Funding: $ 2,436,392
Award: Contract
Contractor: Abt Associates, Inc.
55 Wheeler Street
Cambridge, MA 02138-1168
Project Officer: Philip G. Cotterill, Ph.D.
Division of Reimbursement and Economic Studies
Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: This project continues the support for the prospective payment system (PPS) studies provided under the previous project number 500-85-0015 with Abt Associates, Inc., on the impact of the Medicare hospital PPS, other congressionally mandated reports, and other PPS-related studies.

Status: Several working papers are available from Abt Associates. They include "Medicare Use in Rural Areas," October 1989; "Medicare Episodes Involving Hospitalization and Death," January 1990; "East-West Differences in Episodic Practice Patterns," May 1990; "Hospital Demand for Nurses," December 1989; "Hospital Vulnerability to the PPS," December 1989; "Hospital Labor Markets in the 1980s," December 1989; "Measuring Therapeutic Efficiency of Diagnostic Activity in Medicare: An Exploratory Analysis," April 1990; "The Persistence of Financial Vulnerability in U.S. Hospitals, 1970-87," February 1990; and "A Decomposition of Hospital Cost Inflation by Department," February 1990. In addition, Abt has completed the following papers:

- "Effect of Medicare's Prospective Payment System on the Financial Performance of Hospitals," June 1991.
- "Medical and Surgical Admission Trends for Medicare Beneficiaries 1981-1988," June 1991.
- "Impact of Financial Pressure on Quality of Care in Hospitals: Post Admission Mortality under Medicare's Prospective Payment," June 1991.
- "The Incidence of Adverse Medical Outcomes under Prospective Payment," June 1991.
- "Medicare Prospective Payment and Hospital Closures," June 1991.
- "The Impact of Medicare's Prospective Payment on Hospital Profits," June 1991.
- "The Effect of Medicare's Prospective Payment System on Hospital Service Diffusion," June 1991.
- "The Effect of Medicare's Prospective Payment System on Hospital Employment," June 1991.

Natural History of Post-Acute Care for Medicare Patients

Project No.: 17-C-98891/5
Period: December 1986—September 1992
Funding: $ 3,702,330
Award: Cooperative Agreement
Awardee: University of Minnesota
School of Public Health
Post-Acute Care Project
704 Washington Avenue, SE., Suite 203
Minneapolis, MN 55414
Project Officer: Tony Hausner, Ph.D.
Division of Long-Term Care Experimentation

Description: This is a study of the course and outcomes of post-acute care. It has two major components—an analysis of Medicare data to assess differences in patterns of care across the country and to determine the extent of substitution where various forms of post-acute care services are more or less available and a detailed examination of clinical cases from the most common diagnostic-related groupings receiving post-acute care in a few selected locations. Measures of the complexity of

the clinical cases will be developed using a modification of the medical illness severity grouping system. This project is jointly funded by the Health Care Financing Administration and the Office of the Assistant Secretary for Planning and Evaluation. The conditions specifically being examined in the clinical analyses are stroke, chronic obstructive pulmonary disease, congestive heart failure, hip fracture, and hip replacement. The three locations from which patients were obtained for the case studies are Houston, Minneapolis/St. Paul, and Pittsburgh. Patients and caregivers were followed with interviews 6 weeks, 6 months, and 1 year after hospital discharge, whether the patients were discharged to nursing homes, rehabilitation hospitals, or home. The results of direct observation of selected aspects of patients' functional ability over time were also recorded. The study will provide extensive clinical and functional information about the kinds of patients who receive post-acute care and what happens to them.

Status: The awardee has submitted a draft interim report of preliminary outcome results, which is being reviewed. The final report, which is expected in fall 1992, will include cost comparisons.

Prospective Payment System and Post-Hospital Care: Use, Cost, and Market Changes

Project No.: 18-C-98852/3
Period: September 1985—January 1990
Funding: $ 706,118
Award: Cooperative Agreement
Awardee: Georgetown University
Center for Health Policy Studies
2233 Wisconsin Avenue, NW.
Washington, DC 20007
Project Officer: Judith A. Sangl
Division of Long-Term Care Experimentation
Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: The purpose of the project is to determine how much the hospital prospective payment system (PPS) shifts care from the hospital to skilled nursing facilities (SNFs) and home health providers and to analyze the impact of this shift on total costs to Medicare and on changes in SNF characteristics that are likely to cause an increase in use by Medicare beneficiaries in the future. Medicare claims will be analyzed to determine how PPS has affected total service use (i.e., hospital, SNF, and home health) and costs for hospital patients. In addition, SNFs will be surveyed to identify changes in nursing home patients, services, and market structure likely to affect Medicare use. The survey will be supplemented with data from the Medicare/Medicaid Automated Certification System (MMACS), SNF cost reports, and other sources.

Status: Major project activities include:

- Completion of nursing home survey.
- Analysis of survey and MMACS data.
- Completion of 1982 and 1985 Medicare claims processing for pre- and post-PPS analysis.

The final report is expected by the end of 1991.

Medicare Hospital Payment Policies: Impact on the Nursing Shortage

Project No.: 99-C-99169/5
Period: August 1989—September 1991
Funding: $ 99,226
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Edgar A. Peden, Ph.D.
Division of Reimbursement and Economic Studies
Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: Reports of high and increasing vacancy rates for nurses in the Nation's hospitals have, since 1984, raised concern about a nursing shortage. Because this shortage began occurring shortly after the Medicare prospective payment system (PPS) was implemented, questions have been raised as to whether the change in hospital payment policy may have contributed to this shortage. This study is intended to determine the extent to which Medicare hospital payment policies may be linked to the shortage of nurses, and given such a link, to examine policy options to ameliorate the shortage. The analysis includes nurses' labor market behavior, the substitution of registered nurses (RNs) for licensed practical nurses (LPNs), the impact of changing case mix and declining volume on demand for nurses, and the impact of Medicare payment policy.

Status: Results indicate that the quantity of RN nursing in hospitals increased in response to an increase in demand, partially induced by Medicare's PPS. Strong incentives for greater efficiency engendered by PPS's fixed-payment encouraged hospitals to substitute RNs for less comprehensively trained and less versatile LPNs. The changes that took place were consistent with the workings of a normally functioning labor market and indicate that whatever nursing shortage exists, it will be reasonably self-correcting over time. The awardee's findings are based on data from 1980 through 1986. A draft final report has been received, and the final report is expected in fall 1991.

Determinants of Hospital Costs and Their Growth

Project No.: 99-C-98489/9
Period: August 1989—July 1991
Funding: $ 82,896
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Edgar A. Peden, Ph.D.
Division of Reimbursement and Economic Studies

Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: For this project, researchers describe and analyze the changes in average cost per Medicare hospital case for 1984 through 1987. The analyses include an assessment of the contribution of changes in technology, case mix, the intensity of inputs used to provide given services, input prices, and profits realized in the first 2 years of the prospective payment system (PPS). RAND conducted its analyses using data from a 20-percent sample of Medicare patient bills and Medicare Cost Reports for all hospitals during this period. It also analyzed patient discharge data from a sample of California hospitals to study the effect of changes in intensity on average cost per Medicare hospital case.

Status: After controlling for the increases in the costs of inputs, the fundamental finding is that cost per case increased because the hospital product changed. The average hospital stay in 1987 was both more technologically complex and resource intensive than in 1984. Underlying these increases were both an increase in the case mix across diagnosis-related groups (DRGs) and service intensity and cost per service increases within DRGs. RAND was unable to find a cost-increasing effect of windfall profits during the first 2 years of PPS. A draft final report has been received, and the final report is expected in fall 1991.

Monitoring Hospital Costs and Productivity

Project No.: 99-C-98526/1
Period: August 1990—September 1991
Funding: $ 60,000
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Edgar A. Peden, Ph.D.
Division of Reimbursement and Economic Studies
Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: Researchers present a descriptive analysis of data to monitor recent changes in hospital revenues and costs, input intensity, hospital wages and employment, capital inputs, and productivity. The data used come from various sources including the Health Care Financing Administration (HCFA), other government agencies, the American Hospital Association, and other private sources.

Status: HCFA has received and is currently evaluating the draft final report for this project, a hospital productivity data book. In this book, Brandeis researchers examine long-term trends in hospital performance (for approximately 1963-90) enabling them to put recent trends in a longer run historical perspective. This data book is a summary of the changing structure of the industry, the decline in the number of short-stay hospitals and beds, the rapidly expanding scope of services, the overall trends in expenses, revenues and selected measures of utilization, the growth of hospital employment (decomposed by 30 occupational categories), the growth in capital inputs, trends in labor and total factor productivity, and data on productivity and intensity trends for more than 40 hospital centers.

Indirect Medical Education and Small Teaching Hospitals

Project No.: 99-C-98489/9
Period: August 1990—July 1991
Funding: $ 87,028
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Sheila M. O'Dougherty
Division of Reimbursement and Economic Studies
Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: During this project, researchers will conduct an econometric study of the Medicare prospective payment system payment adjustment for indirect medical education costs. Prior work on this topic at RAND and elsewhere will be extended to account for interactions among indirect medical education, the disproportionate share adjustment, and other urban and rural differences. The study will show how hospitals with various size teaching programs will fare under a new formula relative to the current formula.

Status: The work in progress on this project has focused on econometric refinements in estimating cost junction on which the indirect medical education adjustment is based. The final report is expected in early fall 1991.

Financial Impact of Prospective Payment System on Hospitals

Data for Hospital Cost Monitoring and Analysis of Hospital Costs

Project No.: 500-87-0039
Period: January 1987—December 1991
Funding: $ 551,900
Award: Contract
Contractor: American Hospital Association
840 North Lake Shore Drive
Chicago, IL 60611
Project Officer: Kathleen K. Walker
Division of Reimbursement and Economic Studies
Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: The Health Care Financing Administration (HCFA) will receive from the American Hospital Association (AHA) the output from its National Hospital Panel Survey and Annual Survey of Hospitals for fiscal years 1987-91. These data will serve as a prime source

of outside data on the performance of hospitals and will be used in HCFA analyses, research, and publications.

Status: HCFA has received the Annual Survey of Hospitals for fiscal years 1986 through 1989, monthly *National Hospital Panel Survey Reports*, and monthly *Community Hospital Statistics* through March 1991. These data and reports are available only from the AHA.

Prospective Capital Payment: Refinements and Impacts

Project No.: 17-C-99232/1
Period: July 1988—July 1991
Funding: $ 357,331
Award: Cooperative Agreement
Awardee: Center for Health Economics Research
300 Fifth Avenue, 6th Floor
Waltham, MA 02154
Project Officer: William L. England, Ph.D.
Division of Reimbursement and Economic Studies
Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: In 1987 Congress imposed a 4-year moratorium on prospective capital payment and mandated that the Health Care Financing Administration (HCFA) incorporate capital into the prospective payment system by 1992. This project will support HCFA's activities by compiling and analyzing hospital capital statistics from Medicare Cost Reports (MCRs). The project consists of three tasks. The first is a computer analysis of the MCR data base to determine depreciation and interest expense and the average age of capital assets. The second is exploring alternative data bases that may supplement results from the MCR data base. The third is developing simulation models of the impact of various capital reimbursement plans and exceptions policies.

Status: Work on this project was delayed to facilitate completion of a construction cost index and occupancy rate adjustments for the proposed capital payment policy. During the second and third project years, analysis of the cost report data base was completed and capital cost simulations were developed. The final report on this project will be available late fall 1991.

Changes in Hospital Wages Since Implementation of the Prospective Payment System

Project No.: 17-C-99500/1
Period: October 1989—February 1992
Funding: $ 212,478
Award: Cooperative Agreement
Awardee: Health Economics Research, Inc. (HERI)
Hillsite Office Building
75 Second Avenue, Suite 100
Needham, MA 02194
Project Officer: Edgar A. Peden, Ph.D.
Division of Reimbursement and Economic Studies
Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: Researchers are examining hospital cost inflation that results from increases in labor costs by using the Health Care Financing Administration's (HCFA) wage surveys from 1982, 1984, and 1988; the American Hospital Association's (AHA) annual surveys; and the Bureau of Labor Statistics' (BLS) industry wage surveys. Labor costs account for more than one-half of all hospital costs. These costs have been influenced by changes in hospital occupation mix, wage changes in comparable industries, changes in labor productivity, changes in inpatient volumes, and changes in the general inflation level. This project is being used to investigate linkages of these factors to changes in labor costs.

Status: The awardee has reviewed the literature on hospital and firm wage determination, constructed a model of wage determination, and made preliminary estimates of the model based on data received from HCFA, the BLS, and the AHA. A draft of the first year's work has been received. The awardee's findings to date indicate that the hospital wage index is not a pure measure of the opportunity cost of labor, but is influenced by such factors as the occupation mix, education and experience of the work force, hospital size, and unionization. The awardee is currently reestimating the models using the HCFA survey of wages for 1988 and analyzing the factors that determine the changes in the prospective payment system (PPS) wage index from 1984 to 1989. The PPS wage areas currently in use are also being examined.

Monitoring Hospital Closures, Mergers, Openings, and Changes in Ownership

Project No.: 99-C-98526/1
Period: August 1990—July 1992
Funding: $ 97,729
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Kathleen K. Walker
Division of Reimbursement and Economic Studies
Mandate: Social Security Amendments of 1983 (Public Law 98-21)

Description: To fulfill its responsibility to monitor changes in the hospital industry that potentially affect Medicare beneficiaries, the Health Care Financing Administration (HCFA) needs accurate and timely information on the number of and trends in hospital closures, mergers, openings, and ownership changes. Although Medicare survey and certification data and Medicare Cost Reports provide useful information of this type, they are not in themselves sufficient to provide a complete picture. Under this project, Brandeis will review the potential sources of information on

significant changes in hospital status and design a strategy that HCFA can use to acquire and maintain detailed knowledge of these changes on an annual basis.

Status: Secondary data have been acquired and files indicating hospital status changes are in the process of being updated. Primary data collection occurred during site visits conducted in May and June 1991 at six hospital market areas where mergers occurred during the mid-1980s. A multivariate analysis on the causes of closures, mergers, and changes in status is forthcoming.

Assessing Medicare Hospital Payment Levels

Project No.: 99-C-98526/1
Period: August 1991—July 1992
Funding: $ 66,939
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Edgar A. Peden, Ph.D.
Division of Reimbursement and Economic Studies

Description: The purpose of this task is to determine the adequacy of Medicare payments to providers and to interpret and assess the effectiveness of Medicare margins as policy instruments for gauging hospital performance. To do this, Brandeis will:

- Provide a synthesis of the evidence on hospital performance in terms of profit, cost, revenue, input, and service-mix trends.
- Describe methods for evaluating the efficiency of hospitals, including ways of assessing and collecting data to formulate appropriate payment levels.
- Determine systematic adjustments to hospital payments for efficient providers.
- Make alternative recommendations for evaluating the adequacy of Medicare (or Medicaid) payments to hospitals, both on average and for particular hospitals (or groups of hospitals).

Status: This project is in the early developmental stage.

Rural Hospital Studies

Medical Assistance Facility Demonstration Project

Project No.: 95-C-99292/8
Period: June 1988—June 1994
Funding: $ 445,381
Award: Cooperative Agreement
Awardee: Montana Hospital Research and Education Foundation
P.O. Box 5119
Helena, MT 59604
Project Officer: Sheldon Weisgrau
Division of Hospital Experimentation

Description: The Montana Hospital Research and Education Foundation (MHREF) is conducting a demonstration of the utility and desirability of medical assistance facilities (MAFs), limited-service hospital models located in remote rural frontier areas. The Montana legislature recently created the MAF, which is a new category of licensure for health care facilities providing low-intensity acute care services to short-term inpatients. MAFs are intended to maintain accessibility to basic acute and emergency care services and provide limited inpatient care for no longer than 96 hours. These facilities will be located in counties with fewer than 6 residents per square mile or in areas more than 35 miles from the nearest hospital. In enacting Section 4008(i)(1) of Public Law 101-508, Congress provided the necessary authority to implement the demonstration. This 4-year project consists of two phases. Phase I, the planning and development phase, addressed the technical issues, including payment formula, services covered, and design of a project evaluation. Phase II is the implementation, operation, and evaluation of the demonstration.

Status: MHREF invited 23 Montana hospitals (those with 20 or fewer beds and located more than 35 miles from the next nearest hospital) to participate in the demonstration. A total of 11 hospitals responded and MHREF selected nine applicants for final consideration. Of these, three applicants chose to become demonstration sites and six decided to participate as comparison sites. The Health Care Financing Administration (HCFA) and MHREF have worked to develop the MAF concept by defining services, staffing, and equipment that will be available at each demonstration site. In addition, utilization and cost projections have been prepared in order to estimate the financial impact of the project on the facilities and on the Medicare program. HCFA and MHREF have developed conditions of participation and certification requirements, quality assurance and utilization review procedures, and payment systems for MAFs. The facilities will be subject to rigorous utilization and quality review by the peer review organization (PRO), including preadmission and concurrent review of all inpatients in addition to the PRO's normal retrospective review procedures. Finally, MAFs will be reimbursed for the provision of all services on a reasonable cost basis by the Medicare and Medicaid programs. (Blue Cross and Blue Shield of Montana has also agreed to participate in the demonstration by reimbursing MAFs on a reasonable cost basis.) During fiscal year 1991, the development aspects of the demonstration were completed and Phase II, the demonstration phase, began. McCone County MAF, in Circle, was licensed and certified and began operating in January 1991. In June 1991, Dahl Memorial MAF, in Ekalaka, began operating, and the following month Garfield County MAF, in Jordan, opened.

Medical Assistance Facility Certification Criteria

Project No.: 99-C-99169/5
Period: August 1989—September 1990
Funding: $ 44,256
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)

Project Officer: Sheldon Weisgrau
Division of Hospital Experimentation

Description: The primary purpose of this project is to explore the implications of using various types of remoteness criteria to identify the number and characteristics of rural hospitals that could conceivably qualify as medical assistance facilities (MAFs) or rural primary care hospitals (RPCHs). MAFs and RPCHs are limited-service hospital models designed to maintain access to basic emergency and acute care services in remote rural areas. The analysis will provide the Health Care Financing Administration (HCFA) with an indication of how many rural hospitals might become MAFs or RPCHs under different sets of assumptions.

Status: This project has been completed. The final report entitled "Medical Assistance Facility Certification Criteria" has been received and is available from the National Technical Information Service, accession number PB92-115781. Findings from the final report conclude that about 5 percent of rural hospitals are likely to be qualified and interested in changing their status to MAF or RPCH. These are primarily small hospitals (i.e., 20 or fewer beds) with a low average daily census (5 or less) that are also experiencing large operating losses (i.e., more than $250,000 per year). Estimates are that a range of no more than 100 to 150 hospitals would ultimately convert if these programs were implemented nationwide. The study shows that MAF and RPCH qualifiers are quite different from the average rural hospital. They provide more limited services, have fewer beds, and are more likely to be certified to provide swing beds and/or long-term care. They are more likely to be publicly owned and less likely to be accredited by the Joint Commission on Accreditation of Healthcare Organizations. MAF and RPCH qualifiers tend to be located in counties that have higher per capita incomes than other rural hospitals and smaller proportions of elderly residents. Medicare patients represent a smaller percentage of total patient census in these facilities. MAF and RPCH qualifiers are disproportionately located in the west, north, central, and mountain census regions. Only a very small proportion is located east of the Mississippi River. This study will assist HCFA in examining the consequences of each limited-service hospital option in terms of the number, characteristics, and location of the hospitals that are likely to participate.

Rural Health Care Transition Grants Program

Period: September 1989—September 1992
Funding: $ 24.4 million
Project Officer: William L. Damrosch
Division of Hospital Experimentation
Mandate: Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203) (Amended by Section 6003(g)(1)(B) of the Omnibus Budget Reconciliation Act of 1989, Public Law 101-239)

Description: Congress appropriated $24.4 million in fiscal year (FY) 1991 to fund the Rural Health Care Transition Grants program. Funding for FY 1991 will provide grant monies to fund new awards for 1991, second-year funding for projects awarded in FY 1990, third-year funding for projects awarded in 1989, and the independent evaluation. These grants will support a variety of innovative projects to strengthen the capability of small rural hospitals and their communities to provide high-quality care to Medicare beneficiaries. Under this grants program, eligible rural hospitals may request up to $50,000 per year for up to 3 years. Hospitals receiving awards requested funds to support activities in such areas as enhancing outpatient and/or emergency services, recruiting health professionals, and developing alternative service delivery systems (including rural health care networks) to provide care more effectively. Hospitals qualified for this program if they were non-Federal, not-for-profit, short-term, general acute care hospitals located in rural areas (i.e., those currently being paid as rural hospitals under the Medicare hospital prospective payment system) and had fewer than 100 available beds (as defined in the Medicare Cost Report).

Status: On January 11, 1991, the Office of Research and Demonstrations within the Health Care Financing Administration (HCFA) mailed the solicitation announcement and application materials to each rural hospital. Applications from the hospitals were submitted to HCFA on or before April 11, 1991. HCFA received a total of 445 applications in response to the solicitation. Applications were received from hospitals in each State (except Hawaii and Massachusetts) in which there were eligible rural hospitals. Delaware, New Jersey, and Rhode Island have no eligible rural hospitals. Each application was reviewed for technical merit by a panel of experts. Of the 188 awards in FY 1991, 139 went to hospitals applying as individual facilities and 49 went to hospitals applying as part of a consortium (14 consortia). Of the grants awarded to hospitals in FY 1990 and FY 1989, 349 hospitals requested and received second-year and third-year continuation funding totaling $15.3 million. HCFA continues to contract with Mathematica Policy Research, Inc., to evaluate the program and to provide technical support in monitoring the program.

Rural Health Transition Grant Evaluation

Project No.: 500-87-0028
Period: June 1989—May 1994
Funding: $ 1,443,524
Award: Technical Support: Evaluation of Demonstrations
(See page 82)
Contractor: Mathematica Policy Research, Inc.
P.O. Box 2393
Princeton, NJ 08543-2393
Project Officer: Kathleen M. Farrell
Division of Hospital Experimentation

Mandates: Omnibus Budget Reconciliation Act of 1987 (Public Law 100-203)
Omnibus Budget Reconciliation Act of 1989 (Public Law 101-239)

Description: Mathematica Policy Research, Inc., is performing post-award functions for the fiscal year (FY) 1989 and FY 1990 Rural Health Care Transition grantees that include:

- Monitoring grantees to determine that grant funds are being expended for the purposes for which they were made.
- Conducting an evaluation of the projects funded.
- Reporting to the Health Care Financing Administration (HCFA) the results of the monitoring, the perceived needs of rural hospitals, and the evaluation of the projects.

Status: Mathematica Policy Research, Inc., has recently completed its fourth report to HCFA. This report describes the progress of the FY 1989 grantees after 18 months and the progress of the FY 1990 grantees after 6 months. Eighteen months after the awards, 169 of the 181 hospitals that received awards in 1989 are operating their grant projects as planned, while 5 have completed their projects. Eight hospitals are no longer in the program: four hospitals because of voluntary withdrawal, one because of nonrenewal of the grant by HCFA, and three as a result of facility closure. Six months after the awards, 209 of the 211 hospitals that received awards in 1990 are operating their grants as planned, and 2 hospitals have voluntarily withdrawn and are no longer in the program.

The Potential Use of Hospital Choice Models in Analyzing Essential Access Community Hospital and Rural Primary Care Hospital Designations

Project No.: 99-C-98526/1
Period: August 1990—July 1992
Funding: $ 69,705
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Brigid Goody
Division of Reimbursement and Economic Studies
Mandates: Omnibus Budget Reconciliation Act of 1989 (Public Law 101-239)
Omnibus Budget Reconciliation Act of 1990 (Public Law 101-508)

Description: Brandeis University will present conceptual arguments on the strengths and weaknesses of alternative hospital choice models and their potential use in analyzing designations of Essential Access Community Hospitals (EACHs) and Rural Primary Care Hospitals under the EACH program. Brandeis will also consider broader applications of choice models to the analysis of hospital closures and other possible reconfigurations of rural hospital networks. As part of this analysis, Brandeis will use a readily available data set in a pilot application. Simulations based on a hospital choice model will be presented. Alternative specifications of this model as well as the feasibility of expanding its application to a national data base will be evaluated.

Status: The conceptual review of alternative hospital choice models has been completed. This review includes discussions of the theoretical foundations underlying hospital choice models, previous empirical work, and potential applications for policy analysis. Brandeis is currently performing the empirical work, and a report on this phase of the work is expected in fall 1991.

Evaluation of the Essential Access Community Hospital Program

Project No.: 500-87-0028
Period: September 1991—September 1994
Funding: $ 697,764
Award: Technical Support: Evaluation of Demonstrations
(See page 82)
Contractor: Mathematica Policy Research, Inc.
P.O. Box 2393
Princeton, NJ 08543-2393
Project Officer: Sheldon Weisgrau
Division of Hospital Experimentation

Description: The Essential Access Community Hospital (EACH) Program is authorized by Section 6003(g) of the Omnibus Budget Reconciliation Act of 1989 (Public Law 101-239), as amended. The EACH Program is designed to assist States in maintaining the availability of primary care, emergency services, and limited acute inpatient services in areas where it is no longer feasible to maintain a full-service hospital. Through a competitive application process, the Health Care Financing Administration has chosen the States of California, Colorado, Kansas, New York, North Carolina, South Dakota, and West Virginia to participate in the program. Approximately $9.8 million in grants to assist in program development and implementation was awarded to these States and to 51 hospitals within these States in fiscal year 1991. The evaluation of the EACH Program will include an analysis of the impact of the program on States, communities, health care facilities, and the Medicare program. Major issues to be addressed are:

- Program planning and development at the State, community, and facility level.
- Program implementation and operation of EACHs, Rural Primary Care Hospitals (RPCHs), and rural health networks.
- Service utilization and access to care in communities and facilities that participate in the program.
- The financial impact of the program on facilities that participate and on the Medicare program.
- Quality assurance activities and quality of care in RPCHs.
- Alternative methodologies for Medicare payment to RPCHs.

- The overall impact of the program in maintaining access to care in communities that can no longer support a full-service hospital.

Status: This project is in the early developmental stage.

Health Care for Poor and Rural Hospital Patients

Project No.: 99-C-98489/9
Period: August 1989—July 1992
Funding: $ 115,334
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Brigid Goody
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)

Description: This project will be used to analyze how rural and inner city residents differ from other hospitalized Medicare patients with respect to quality of care, as measured by processes and outcomes adjusted for sickness at admission. The study is an extension of existing research that identifies major differences in care between rural and inner city patients.

Status: A preliminary report has been received. This study uses an existing nationally representative data base of 14,012 hospitalized Medicare patients to examine whether quality of care for those from neighborhoods with many families living below the poverty level or for black patients differed from that for the other patients. The study found that overall quality of the process of care was similar for those from poor neighborhoods and others and for black patients and those other than black. Process of care and instability at discharge, after controlling for hospital type, were worse for patients from neighborhoods with many poor families or black patients. This report was not explicit with respect to differences in quality of care between rural and inner city patients. A final report is expected in December 1991.

Access to Care in Rural and Inner City America

Project No.: 17-C-99498/1
Period: September 1989—June 1992
Funding: $ 166,934
Award: Cooperative Agreement
Awardee: Center for Health Economics Research
Hillsite Office Building
75 Second Avenue, Suite 100
Needham, MA 02194
Project Officer: John T. Petrie
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)

Description: This project is designed to examine changes in utilization trends for 1985 through 1989 in the catchment areas of 23 hospitals that closed inpatient services during 1986-87. Researchers expect to determine whether closures significantly limit access to care for Medicare beneficiaries. In particular, they will examine the following aspects of health care utilization:

- Where patients obtain health care before and after hospital closures.
- The effects of hospital closures on utilization rates and on the place of care.
- The relationship between the use of physician services and changes in the availability of inpatient services.
- The impact of hospital closures on per capita Medicare expenditures, out-of-pocket costs, and travel distance to inpatient care.

Status: In a first-year report, the researchers described the characteristics of the 23 closing hospitals and those of neighboring hospitals. They described the method used to develop service areas for the closing hospitals and presented descriptive analyses of the service areas in terms of demographic characteristics and market share. Researchers also began analyzing patient travel patterns for inpatient care before and after the hospital closures took place. Because the researchers experienced unanticipated delays in acquiring data, the project has been extended 9 months. Work is still in progress regarding the analyses of patterns of inpatient and outpatient utilization, per capita Medicare program expenditures, and out-of-pocket beneficiary expenditures.

Hospital Closures, Financial Status, and Access to Care: A Rural and Urban Analysis

Project No.: 17-C-99499/3
Period: September 1989—December 1991
Funding: $ 193,944
Award: Cooperative Agreement
Awardee: Georgetown University
37th and O Streets, NW.
Washington, DC 20057
Project Officer: Brigid Goody
Division of Reimbursement and Economic Studies
Mandate: Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)

Description: This project addresses why hospitals close and how closures affect access. A hospital-level analysis will be done to examine factors that cause hospitals to close. Closed hospitals will be compared with similar hospitals that remain open with respect to admissions, costs, Medicare and non-Medicare revenues, Medicare patients, and patterns of care. Separate analyses will be conducted for rural and urban areas to identify factors unique to each type of community. A patient-level analysis will compare patients of closed and open hospitals along the following dimensions—diagnostic

mix, severity of illness, and patterns of care. In addition, these two groups of patients will be compared to determine whether closure has an adverse effect on access to or outcome of care.

Status: The data sets for both the hospital- and patient-level analyses have been constructed. Preliminary results of the hospital-level analysis have been presented to the Health Care Financing Administration staff. Looking at all hospitals that closed between 1981 and 1988, the investigator found that:

- The Medicare prospective payment system did not increase the relative odds of a hospital closing, holding constant profitability and other factors.
- Controlling for output levels and mix, lower revenues not higher costs are the main reason for closed hospitals' low profits.
- Closed hospitals appear to provide less complex care and to treat more of the very old (over 85 years of age), disabled, and beneficiaries who are other than white.

The patient-level analysis is ongoing. Final results of both analyses will be available in December 1991.

Examination of Excluded Hospital Payment Methodologies

Update of the Tax Equity and Fiscal Responsibility Act Hospital Financial Status

Project No.: 99-C-98526/1
Period: August 1991—July 1992
Funding: $ 75,000
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: John T. Petrie
Division of Reimbursement and Economic Studies

Description: This study is a followup to project number 99-C-98526/1, Analysis of the Tax Equity and Fiscal Responsibility Act for Reimbursement of Excluded Hospitals Under the Prospective Payment System, period July 1989—January 1990; awardee, Brandeis University Research Center. The final report entitled "Impact Analysis of the TEFRA System for Reimbursement of PPS-Excluded Hospitals" is available from the National Technical Information Service, accession number PB90-220179. This new project will update the financial condition under the Tax Equity and Fiscal Responsibility Act (TEFRA) of psychiatric, rehabilitation, long-term care, and children's hospitals and units, using data from fiscal years 1986 through 1989. The researchers will design and test alternative reimbursement strategies for TEFRA facilities.

Status: This project is in the early developmental stage.

Other Studies

Problems in Determining a Hospital's Level of Uncompensated Care

Project No.: 99-C-99168/3
Period: August 1991—July 1992
Funding: $ 35,644
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: William Buczko, Ph.D.
Division of Reimbursement and Economic Studies

Description: Researchers will assess the definitional and measurement problems encountered in determining the level of uncompensated care provided by a hospital. This should produce better measures of uncompensated care, thereby allowing policymakers to better evaluate the effects of reimbursement policy on hospital finances.

Status: This project is in the early developmental stage.

Examination of Alternative Approaches for Graduate Medical Education Payment through Medicare: Continuation of Prior Study

Project No.: 99-C-99168/3
Period: August 1991—July 1992
Funding: $ 67,137
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: John T. Petrie
Division of Reimbursement and Economic Studies

Description: This project is a continuation of a HOPE Research Center project having the same title and project number during the period August 1990 to January 1991. Researchers will continue to analyze Medicare's methodology of payment for direct and indirect graduate medical education costs and empirically test alternative approaches that would address allocative and equity issues.

Status: This project is in the early developmental stage.

Study of Substitution of Rehabilitation for Hospital Services

Project No.: 99-C-99168/3
Period: August 1991—July 1992
Funding: $ 50,000
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Philip G. Cotterill, Ph.D.
Division of Reimbursement and Economic Studies

Description: Information will be developed on utilization trends in short-stay hospital and rehabilitation services by focusing on Medicare cases that frequently require rehabilitation services. The researchers will investigate the substitution of rehabilitation services for hospital inpatient services.

Status: This project is in the early developmental stage.

Determining the Appropriateness of Reclassifying a Ventilator-Dependent Unit as a Rehabilitation Unit for Purposes of Reimbursement

Project Nos.: 29-P-99424/5; 29-P-99397/5; 29-C-99404/1; 29-P-99408/3; 29-P-99401/3
Period: October 1989—September 1993
Award: Waiver only
Awardees: Mayo Foundation, St. Mary's Hospital, Rochester, MN
RMS Health Providers, Joint Venture of Suburban Hospital/Rush Presbyterian Hospital, Chicago, IL
Rhode Island Hospital, Providence, RI
Sinai Hospital of Detroit, Detroit, MI
Temple University Hospital, Philadelphia, PA
Project Officer: Thomas Talbott
Division of Hospital Experimentation
Mandate: Medicare Catastrophic Coverage Act of 1988
(Public Law 100-360)

Description: The demonstration will be used to determine the appropriateness of reclassifying ventilator-dependent units in hospitals as rehabilitation units for purposes of Medicare reimbursement. A comparison will be made of the cost of the services, quality of care, outcomes, and treatment patterns for each of the demonstration sites as well as the selected alternative sites in an effort to study modifications in reimbursement policy.

Status: All administrative processes are complete, such as the assignment of provider numbers, notifying the fiscal intermediaries and appropriate regional offices, and modifying peer review organization contracts. Official authorization has been given and each hospital will begin participation in the demonstration at the start of its fiscal year.

Evaluation of the Ventilator-Dependent Unit Demonstration

Project No.: 500-87-0029
Period: October 1989—September 1994
Funding: $ 773,815
Award: Technical Support: Evaluation of Demonstrations
(See page 82)
Contractor: Lewin/ICF
1090 Vermont Avenue, NW., Suite 700
Washington, DC 20005
Project Officer: Thomas Talbott
Division of Hospital Experimentation
Mandate: Medicare Catastrophic Coverage Act of 1988
(Public Law 100-360)

Description: Treating ventilator-dependent patients in hospitals is labor intensive, and the cost of the service often exceeds the present-day payment system under prospective payment. The contractor will evaluate five competitively selected demonstration sites that provide care for chronic ventilator-dependent patients. The contractor will gather data from a representative sample of hospitals as well as the five demonstration sites to address such policy concerns as overall cost of care, quality, treatment patterns, and appropriate sites of care.

Status: In addition to evaluating the demonstration, Lewin/ICF was requested to assist in the preparation of the waiver cost estimate and to prepare an analysis paper describing reimbursement policy options. Both tasks have been completed. Lewin is awaiting approval of the waiver cost estimate which is required before the demonstration can commence. Lewin is drafting the evaluation design and data collection plan.

Defining an Efficient Hospital

Project No.: 99-C-98489/9
Period: August 1991—July 1992
Funding: $ 60,000
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Edgar A. Peden, Ph.D.
Division of Reimbursement and Economic Studies

Description: The purpose of this project is to produce a concept paper defining an efficient hospital. RAND will attempt to synthesize the literature and make practical suggestions for payment policy but will not attempt any new empirical work or actually identify efficient hospitals.

Status: This project is in the early developmental stage.

Hospital Cash Flow Statements

Project No.: 99-C-98489/9
Period: August 1991—July 1992
Funding: $ 104,296
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: William L. England, Ph.D.
Division of Reimbursement and Economic Studies

Description: The purpose of this project is to assess the benefits and feasibility of developing a national data base of hospital cash flow information that could be used for public policy research on hospital financial health. This assessment will entail three subtasks:

- Identify States that collect and maintain hospital financial statements in a publicly accessible location.
- Collect, standardize, and analyze 1989 and 1990 cash flow statements for Arizona, California, or other States, to add to the researcher's current data base of Arizona, California, Maine, Massachusetts, and New Jersey.
- Assess the feasibility of collecting cash flow information from Medicare Cost Reports.

Expected results of this project include a source book of hospital cash flow information available from each State, a report summarizing the analysis of one or more State's standardized cash flow data bases, and a report on the feasibility of collecting cash flow information from Medicare Cost Reports, with comments on the quality of information currently available and suggestions for changes to enhance the uniformity of the reports.

Status: This project is in the early developmental stage.

Standardized Payment Systems

Project No.: 99-C-99168/3
Period: August 1991—February 1992
Funding: $ 60,000
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: William J. Sobaski
Division of Reimbursement and Economic Studies

Description: This task has two purposes. The first is to review available information on the effectiveness of standardized payment or ratesetting systems in containing costs and other impacts such as access to care and quality of care. The second objective is to consider the practical problems encountered in the implementation of past and currently existing systems. The study will then address the feasibility and practicality of applying these systems to the United States as a whole.

Status: This project is in the early developmental stage.

Program Efficiencies, Analyses, and Refinements

Clinical Laboratory Services

Volume-Adjusted Payment for Clinical Laboratory Services

Project No.: 99-C-99169/5
Period: August 1990—July 1992
Funding: $ 99,457
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Victor G. McVicker
Division of Hospital Experimentation

Description: The University of Pennsylvania is completing a project designed to examine the impact of practice setting and technology on the cost of producing laboratory services. Researchers at the University have focused on the 35 clinical chemistry, hematology, and toxicology kits most commonly paid for by the Medicare program in 1986 and 1987. This project will extend the current work to examine the profitability of performing these tests as a function of testing volume. Researchers will analyze several data sources and will validate the model with actual laboratories' data for the appropriate volume. Findings will be used to examine alternative payment methods.

Status: The University of Pennsylvania has received the data set and the information on the instruments and reagents and has started the analyses. The final report is expected in winter 1991.

Use of Market Force Dynamics to Set Medicare Fee Schedules

Project No.: 99-C-99168/3
Period: August 1990—July 1992
Funding: $ 69,750
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Victor G. McVicker
Division of Hospital Experimentation

Description: There are two major objectives for this project. The first is to examine the potential for using market force dynamics to set Medicare fee schedules that approximate the prices that would be charged in a competitive market. Particular emphasis will be placed on the potential for competitive bidding to harness market force dynamics in a way that reduces Medicare expenditures. The second objective is to review a Medicare demonstration project that is designed to evaluate competitive bidding for clinical laboratory services. This project was designed in 1987, but not implemented. Vanderbilt University will examine the proposed bidding process, analyze probable bidding strategies for providers, and assess whether the design is still appropriate in light of changes in the industry since the demonstration was proposed.

Status: The final report entitled "The Use of Market Force Dynamics to Set Medicare Fee Schedules: Analysis Plan" was received and is under review.

Laboratory Industry Technology and Productivity Changes

Project No.: 99-C-99169/5
Period: August 1989—July 1992
Funding: $ 99,997
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Victor G. McVicker
Division of Hospital Experimentation

Description: This study is designed to examine the effects of technological advances on the cost of laboratory services in various provider and supplier settings. The subcontractor, the University of Pennsylvania, will undertake the following tasks:

- Conduct a thorough review of the available sources of data on test cost and quality.
- Examine the relative costs of producing a specific subset of clinical laboratory tests at various volumes and in various settings.
- Describe the temporal changes in the costs of performing selected tests because of technical changes and the relationship between cost and charges for those tests over time.
- Analyze how Medicare payments relate to the actual costs of those tests.

Status: The draft final report has been received, and the final report is expected in fall 1991.

Durable Medical Equipment Services

Demonstration and Evaluation of Competitive Bidding as a Method of Purchasing Durable Medical Equipment

Project No.:	500-85-0050
Period:	September 1985—December 1990
Funding:	$ 1,329,170
Award:	Contract
Contractor:	Abt Associates, Inc. 4800 Montgomery Lane Bethesda, MD 20814
Project Officer:	Victor G. McVicker Division of Hospital Experimentation

Description: Abt Associates tested the feasibility of using competitive bidding as a method of establishing the prices Medicare pays for durable medical equipment. The contractor also provided the Health Care Financing Administration (HCFA) with considerable information on whether the current payment levels for durable medical equipment are properly set. The project consisted of three phases:

- Phase I. Designed the bidding model, selected demonstration sites, and prepared bidding documents.
- Phase II. Administered the bidding systems.
- Phase III. Evaluated the demonstration.

The total time for the project was 5 years.

Status: The Omnibus Budget Reconciliation Act (OBRA) of 1987 established a new Medicare reimbursement system for durable medical equipment and respiratory therapy services (collectively known as DME) effective January 1989 and prohibited demonstrations of alternative reimbursement systems for DME until January 1, 1991. As a result of the changes in the reimbursement system, a revised scope of work was approved that shifted the focus to the development of simulation models of Medicare payments for DME that can be used to estimate costs to the Medicare program under alternative reimbursement systems (e.g., pre- and post-OBRA) and variations thereof. The contractor examined the DME ratesetting approaches of other third-party payers (such as the Department of Veterans Affairs, private insurance companies, and health maintenance organizations) to determine which systems result in competitively set prices, and, of those, which could be adapted for HCFA's use in administering Medicare. All activities and reports for this project were finalized in December 1990. Final reports covering the following areas are available from the National Technical Information Service:

- "Durable Medical Equipment Competitive Bidding Demonstration—Simulation of the Impact of OBRA 1987 on Reimbursement of Durable Medical Equipment," accession number PB91-193474.
- "Durable Medical Equipment Competitive Bidding Demonstration—Final Report: Options for Medicare Reimbursement of Durable Medical Equipment," accession number PB91-193466.
- "Durable Medical Equipment Competitive Bidding Demonstration—Review of Reimbursement Methods of Other Payers for Durable Medical Equipment," accession number PB91-193482.
- "Durable Medical Equipment Competitive Bidding Demonstration—Case Studies of OBRA's Effects on Access to DME," accession number PB91-193490.
- "Durable Medical Equipment Competitive Bidding Demonstration—Working Paper: Methodology for Constructing the Simulation Data Base," volume 1 of 2, accession number PB91-193532 and volume 2 of 2, accession number PB91-193540.

End Stage Renal Disease

End Stage Renal Disease Nutritional Therapy Study

Period:	September 1984—August 1994
Award:	Interagency Agreement
Agency:	National Institutes of Health National Institute of Diabetes and Digestive and Kidney Disease Bethesda, MD 20892
Project Officer:	Arne H. Anderson Division of Health Systems and Special Studies
Mandate:	Omnibus Reconciliation Act of 1980 (Public Law 96-499)

Description: In accordance with the congressional mandate, this study, known as the Modification of Diet in Renal Disease Study, is a multicenter cooperative clinical study designed to ascertain whether restriction of dietary protein and phosphorus and/or reduction of blood pressure well below the currently accepted target of 140/90 will reduce the rate of progression of chronic renal disease, regardless of the nature of the primary underlying process. The study is being conducted jointly by the National Institutes of Health (NIH) and the Health Care Financing Administration (HCFA).

Status: Phase I, the developmental phase, began in September 1984 and ended in December 1985. This phase produced a clinical protocol, forms manual, and operation manual. Phase II, a 2-year pilot study, began in January 1986 at nine clinical sites. Phase III, the full-scale clinical study, began in January 1989 at 15 clinical sites and is to run until December 31, 1992. At the conclusion of this phase, NIH will determine to what extent the dietary restrictions and blood pressure reduction result in a reduced rate of progression of chronic renal disease. HCFA is responsible for conducting the cost-effectiveness component of the study if the therapy is found to be effective. The following questions will be addressed in the cost analysis to be conducted by HCFA:

- Is nutritional therapy cost effective in the treatment of patients in the study?
- Is nutritional therapy less costly to HCFA than the current payment for dialysis and transplantation?
- Is payment for nutritional therapy under HCFA administratively feasible?
- Can the therapy be effectively managed?

Cause and Failure to Transplant Cadaveric Human Organs

Project No.: 17-C-98728/1
Period: August 1986—October 1989
Funding: $ 699,740
Award: Cooperative Agreement
Awardee: Brandeis University
415 South Street
Waltham, MA 02254
Project Officer: Paul W. Eggers, Ph.D.
Division of Beneficiary Studies
Mandate: National Organ Transplant Act
(Public Law 98-507)

Description: For this project, researchers examined the reasons for the high rate of wastage of cadaveric kidneys in the United States.

Status: Data collection began on January 1, 1988, and continued through December 31, 1988. At the end of the study, data were available on 3,503 kidneys with discard information on 181 kidneys. A draft final report was received in the Office of Research and Demonstrations in June 1990. A revised final report was accepted in fall 1990. Major findings include:

- The overall wastage rate in 1988 was 5 percent, down considerably from the 20-percent rate in 1980.
- Reasons for failure to transplant were anatomical abnormalities, 17 percent; donor and organ pathologies, 32 percent; surgical complications, 11 percent; preservation and perfusion problems, 9 percent; and all other reasons, 31 percent.

The final report, "The Causes of Failure to Transplant Cadaveric Human Organs," is available from the National Technical Information Service, accession number PB91-158386.

Staff-Assisted Home Dialysis Demonstration

Project No.: 500-87-0030
Period: June 1991—December 1995
Funding: $ 914,203
Award: Technical Support:
Evaluation of Demonstrations
(See page 82)
Contractor: Abt Associates, Inc.
55 Wheeler Street
Cambridge, MA 02138-1168
Project Officer: Bonnie M. Edington
Division of Health Systems and Special Studies
Mandate: Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: This demonstration is to test whether providing home hemodialysis assistants for end stage renal disease (ESRD) patients meeting stringent eligibility criteria (e.g., bed- or wheelchair-bound) is cost effective, in that it reduces Medicare-covered ambulance costs for transporting patients to maintenance dialysis in facilities. The legislation limits the experimental benefit to a maximum of 800 patients and stipulates a detailed ratesetting formula. Letters of solicitation will be sent to all dialysis facilities in January 1992. Facilities serving appropriate patients and willing to accept the payment rate will refer patients to their local ESRD Network. ESRD Networks will assess referrals to determine patient eligibility. Once the number of patients referred and meeting the eligibility criteria is known, the research design will be developed, with either patients or facilities randomized into experimental and control groups. Experimental services are expected to begin in May 1992. The contractor will interview participating patients soon after they are enrolled in the demonstration and 1-2 years later. The ESRD Networks will collect medical record data on participating patients every 6 months. Reports to Congress are due December 1, 1992, and December 1, 1995.

Status: This project is in the early operational stage.

Cost and Outcomes from Different End Stage Renal Disease Treatment Modalities

Project No.: 500-90-0050
Period: September 1990—February 1992
Funding: $ 200,039
Award: Contract
Contractor: The Urban Institute
2100 M Street, NW., Suite 400
Washington, DC 20037
Project Officer: Joel W. Greer, Ph.D.
Division of Beneficiary Studies
Mandate: Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)

Description: The purpose of this project is to study the cost effectiveness of various treatment regimens for end stage renal disease (ESRD) and to compare quality of life indicators for these regimens. It is generally believed that transplant patients do better and have lower medical costs than do dialysis patients. However, there is little consensus about the impacts of various dialysis modalities. The outcomes and costs of the various dialysis therapies will be explored.

Status: The project team has nearly finished creating the analysis files. This was a massive undertaking that required linking Health Care Financing Administration and United States Renal Data System data bases. In addition, preliminary results for most analyses have been run on a small subset of the data. A final report is expected in fall 1991.

Center Billings for Ancillary Dialysis Services

Project No.: 99-C-98489/9
Period: August 1991—July 1992
Funding: $ 120,000
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Joel W. Greer, Ph.D.
Division of Beneficiary Studies

Description: Medicare pays a fixed amount—called the composite rate—for each dialysis session including supplies, drugs, and tests. The dialysis facility (or other provider) may charge separately for nondialysis services. There is a gray area of ancillary tasks that could be considered as part of the composite rate but may be billed separately at times. Researchers will compile a list of these ancillary services and examine the current number and amount of billings. This will include the quantity and costs of supplies, drugs, tests, and services provided to dialysis patients supplementary to those covered in the composite rate.

Status: This project is in the early implementation stage.

Rates of Inpatient and Outpatient Shunt Procedures for End Stage Renal Disease Beneficiaries

Project No.: 99-C-98489/9
Period: August 1991—July 1992
Funding: $ 103,906
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Joel W. Greer, Ph.D.
Division of Beneficiary Studies

Description: The most frequent principal diagnosis for hospitalizations among end stage renal disease (ESRD) beneficiaries is Code 996 from the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM): complications peculiar to certain specified procedures. The bulk of these hospitalizations are for complications and infections of the dialysis access shunt or graft. It is believed that some of these hospitalizations could have been performed in an outpatient setting. The purpose of this study is to examine physician billings for shunt procedures for their dialysis patients and to examine cost differences between inpatient and outpatient settings. The project will involve analysis of inpatient, outpatient, and physician and supplier data files for ESRD beneficiaries. The project will:

- Identify physicians receiving monthly capitation payments (MCP).
- Analyze distribution of ESRD patients and Medicare reimbursements among physicians receiving MCP payments.
- Look at numbers and costs of shunt procedures performed by physicians. Examine place of service, distribution across physicians, and whether some physicians seem to use hospitals exclusively.
- Compare the costs to Medicare of inpatient versus outpatient shunt procedures.

Status: This project is in the early implementation stage.

Predictors of Cost and Success in Kidney and Heart Transplantation

Project No.: 17-C-99183/0
Period: June 1988—February 1991
Funding: $ 235,118
Award: Cooperative Agreement
Awardee: Battelle Human Affairs Research Centers
4000 NE. 41st Street
Seattle, WA 98105
Project Officer: Lawrence E. Kucken
Division of Beneficiary Studies

Description: For this project, researchers examined the patient and organizational characteristics that determine successful kidney, heart, and other organ transplantation outcomes, the "center effect." Using multivariate life-table methods, data from the Medicare program were combined with information from surveys of transplant facilities to construct a model of transplant facility effectiveness and to analyze other aspects of organ transplantation.

Status: A draft final report has been submitted and is under review. The report comprises a comprehensive analysis of organ transplantation in the United States including organ supply and demand, volume, costs, and other facets. Three transplant center experience-related variables were analyzed with respect to patient outcomes (survival rates). These included transplant program volume, physician experience, and surgeon experience. Some of the more salient findings pertaining to the "center effect" are:

- Each of these variables was found to exhibit a strong (favorable) statistical influence on patient outcomes for patients undergoing kidney transplantation.
- A much weaker relationship (ranging from none to modest) was found between these experience-related variables and outcomes for patients undergoing heart and liver transplantation.

Review of the First Year of Medicare Coverage of Erythropoietin

Project No.: 500-90-0051
Period: September 1990—July 1992
Funding: $ 401,099
Award: Contract
Contractor: The Johns Hopkins University
Program for Medical Technology and Practice Assessment
1830 East Monument Street, Room 8061
Baltimore, MD 21205
Project Officer: Joel W. Greer, Ph.D.
Division of Beneficiary Studies
Mandate: Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)

Description: The Health Care Financing Administration (HCFA) began covering human recombinant erythropoietin (EPO) in July 1989, 1 month after the drug was approved by the Food and Drug Administration. Researchers will examine usage patterns, costs, outcomes, and cost effectiveness of EPO following its coverage by HCFA. According to clinical trials, EPO can cure anemia in more than 90 percent of dialysis patients, but it must be taken continually to prevent recurrence.

Status: Many interesting findings have been produced. As of June 30, 1990, 1 year after EPO coverage, EPO was used by 39 percent of dialysis patients. The percentage among in-center, hemodialysis patients was far higher—about 60 percent. Sex of patient did not affect the likelihood of receiving EPO, although older persons were more likely to be receiving EPO. Patients treated by independent and by for-profit centers were more likely to be using EPO, but their average dose was lower. Dosage level was significantly below clinical trial levels as was success in reaching target hematocrits. However, the low dose may not be related to the mediocre hematocrits. There was essentially no relationship between dose and outcome. The project team is currently writing its final report.

Impact of Payment Changes on Medicare: Case of End Stage Renal Disease

Project No.: 17-C-99021/3
Period: June 1987—June 1990
Funding: $ 510,000
Award: Cooperative Agreement
Awardee: The Urban Institute
Health Policy Center
2100 M Street, NW.
Washington, DC 20037
Project Officer: Carl E. Josephson
Division of Program Studies
Mandate: Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)

Description: This project was part of an ongoing effort to monitor several components of Medicare's end stage renal disease (ESRD) program. The major thrust was to measure the impact of two recent reductions in the composite payment rate on access to and quality of care provided to ESRD patients.

Status: Information was derived from summaries of medical care records and other supplementary sources for former patients in both hospital-based and freestanding dialysis centers. The initial effort concentrated on assessing the impact of the $12 reduction of the composite rate in 1983. This task included analysis of morbidity and mortality associated with ESRD, in concert with the study mandated by Congress in Section 9335(b)(2) of Public Law 99-509. As soon as the data became available, the same protocol was followed to measure the impact of the additional $2-composite rate reduction instituted in 1986. Also addressed were numerous economic, policy, and epidemiological issues related to the administration and evaluation of the Medicare ESRD program. This project has been completed and has resulted in several publications, papers, and presentations. An interim project report, "The Impact of the Changes in the End Stage Renal Disease Composite Rate," was included in a Report to Congress and is available from the Superintendent of Documents, U.S. Government Printing Office, stock number 017-060-00311-1. The cost is $10.00 domestic; $12.50 foreign. Among the papers emanating from this study are:

- "Mortality and Duration of Hemodialysis Treatment."
- "The Medicare Cost of Renal Dialysis: Evidence from a Statistical Cost Function."
- "Benign Moral Hazard and the Cost-Effectiveness Analysis of Insurance Coverage."
- "Price of Dialysis, Unit Staffing, and Length of Dialysis Treatments."
- "Five-Year Survival for End Stage Renal Disease Patients in the United States, Europe, and Japan, 1982 to 1987."
- "The Impact of Nonidentical ABO Cadaveric Renal Transplantation on Waiting Times and Graft Survival."
- "Access to Kidney Transplantation: Has the United States Eliminated Income and Racial Differences?"

The final project report has been received and accepted.

End Stage Renal Disease Annual Research Report

Funding: Intramural
Project Director: Paul W. Eggers, Ph.D.
Division of Beneficiary Studies

Description: The annual reports are designed to produce a wide range of data and analyses regarding the end stage renal disease (ESRD) program. Much of the data in these reports emphasize trends and comparisons over time, making these reports standard reference sources illustrating changes in the nature of the Medicare ESRD

population and in the pattern of treatment of this population.

Status: The most recent published report is Health Care Financing Administration: *Research Report: End Stage Renal Disease, 1989*. HCFA Pub. No. 03319. Bureau of Data Management and Strategy. Washington. U.S. Government Printing Office, September 1991. While supplies last, complimentary copies of this report are available from the Health Care Financing Administration, Bureau of Data Management and Strategy, Office of Statistics and Data Management, Division of Information Analysis, Third Floor, Security Office Park Building, 6325 Security Boulevard, Baltimore, Maryland 21207. Telephone requests can be made to (410) 597-5183.

Study of the Medicare End Stage Renal Disease Program

Project No.: 14-C-99338/3
Period: September 1988—June 1991
Funding: $ 1,719,890
Award: Cooperative Agreement
Awardee: National Academy of Sciences
Institute of Medicine
2101 Constitution Avenue, NW.
Washington, DC 20418
Project Officer: Carl E. Josephson
Division of Program Studies
Mandate: Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)

Description: Section 4036(d) of Public Law 100-203 mandates that the Secretary of Health and Human Services conduct a study to examine the following issues:

- Access to treatment both by individuals with chronic kidney failure eligible for Medicare benefits and by those not eligible for such benefits.
- Quality of care provided to end stage renal disease (ESRD) beneficiaries, as measured by clinical indicators, functional status of patients, and patient satisfaction.
- Effect of reimbursement on quality of treatment.
- Major epidemiological and demographic changes in the ESRD population that may affect access to treatment, quality of care, or the resource requirements of the program.
- Adequacy of existing data systems to monitor these matters on a continuing basis.

The Institute of Medicine (IOM) appointed a 16-member study committee to address the congressional mandate. The committee met on several occasions during 1989 and 1990, hosted public hearings, solicited oral and written testimony, commissioned papers, and entered into subcontracts for analyses of data. Additional analyses of Medicare program data were performed by the IOM study staff.

Status: This project has been completed. The final report from this project has been published by IOM under the title, "Kidney Failure and the Federal Government." Copies of the final report are available from the National Academy Press. A 22-page executive summary, based on extracts from the complete report, is also available from the National Academy Press. The summary includes the study committee's major recommendations in the areas of access, quality, reimbursement, data, epidemiology, and research.

Data Development

Medicaid Data Needs

Project No.: 99-C-98489/9
Period: August 1991—July 1992
Funding: $ 93,690
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Penelope L. Pine
Division of Program Studies

Description: In order to assist the Health Care Financing Administration in its efforts to evaluate the current Medicaid data systems, RAND will:

- Develop a list of important Medicaid policy issues and define several research studies to address these issues.
- Inventory the data needed to conduct these research projects.
- Review existing data systems and identify gaps.
- Propose ways that the gaps may be filled.

By enumerating the data needs of a variety of different types of projects and evaluating data systems in light of those needs, RAND will identify data activities necessary to support Medicaid health services research.

Status: This project is in the early developmental stage.

Medicaid Tape-to-Tape: Research Data and Analysis

Project No.: 500-86-0016
Period: March 1986—March 1991
Funding: $ 5,141,560
Award: Contract
Contractor: SysteMetrics/McGraw-Hill
104 West Anapamu Street
Santa Barbara, CA 93101
Project Officers: Penelope L. Pine and David K. Baugh
Division of Program Studies

Description: For this project, researchers continued the development and implementation of a Medicaid person-level data set from the five State Medicaid Management Information Systems (MMISs) in California, Georgia, Michigan, New York, and Tennessee. Data on enrollment, claims, and providers for 1985 through 1988 were acquired. These data will be used to create uniform files, provide descriptive reports, support analysis and evaluation, and develop methodology for online data base management. This project will provide a continuum of 9 years of uniform Medicaid data for analyzing

program management, evaluating policy alternatives, and providing feedback to States in the area of Medicaid financing.

Status: This contract has been completed. Person-level enrollment, claims, and provider data have been produced. Project staff have also linked the data base to other kinds of health statistics to expand the uses of the data. The contractor produced summary tabulations on enrollment, utilization, and expenditure data for each year and each participating State. Research topics included capitation in Medicaid, mental illness, inpatient hospital use by Medicaid children, hospital reimbursement, Medicaid drug utilization, services to infants and pregnant women, physician volume, acquired immunodeficiency syndrome, long-term care, and Medicaid providers. The final report entitled "Medicaid Tape-to-Tape: Research and Data Analysis" has been received and accepted. In addition, the following articles have been published:

- Adams, E.K., Ellwood, M.R., and Pine, P.L.: Utilization and expenditures under Medicaid for Supplemental Security Income disabled. *Health Care Financing Review* 11(1):1-24. HCFA Pub. No. 03286. Office of Research and Demonstrations, Health Care Financing Administration. Washington. U.S. Government Printing Office, Fall 1989.
- Andrews, R., Herz, E., Dodds, S., and Ruther, M.: Access to hospital care for California and Michigan Medicaid recipients. *Health Care Financing Review* 12(4):99-104. HCFA Pub. No. 03318. Office of Research and Demonstrations, Health Care Financing Administration. Washington. U.S. Government Printing Office, Summer 1991.
- Andrews, R.M., Keyes, M.A., and Pine, P.L.: Acquired immunodeficiency syndrome in California's Medicaid program, 1981-84. *Health Care Financing Review* 10(1):95-103. HCFA Pub. No. 03274. Office of Research and Demonstrations, Health Care Financing Administration. Washington. U.S. Government Printing Office, Fall 1988.
- Burwell, B., Adams, E.K., and Mieners, M.: Spend-down of assets before Medicaid eligibility among elderly nursing home recipients in Michigan. *Medical Care* 28(4):349-362, Apr. 1990.
- Health Care Financing Administration: *High Volume and High Payment Procedures in the Medicaid Population.* Report to Congress. HCFA Pub. No. 03289. U.S. Department of Health and Human Services. Washington. Sept. 1989.
- Howell, E.M., and Brown, G.A.: Prenatal, delivery, and infant care under Medicaid in three States. *Health Care Financing Review* 10(4):1-15. HCFA Pub. No. 03284. Office of Research and Demonstrations, Health Care Financing Administration. Washington. U.S. Government Printing Office, Summer 1989.
- Howell, E., Herz, E., Wang, R., and Hirsch, M.: A comparison of Medicaid and non-Medicaid obstetrical care in California. *Health Care Financing Review* 12(4):1-15. HCFA Pub. No. 03318. Office of Research and Demonstrations, Health Care Financing Administration. Washington. U.S. Government Printing Office, Summer 1991.
- Ku, L., Ellwood, M.R., and Klemm, J.: Deciphering Medicaid data: Issues and needs. *Health Care Financing Review.* 1990 Annual Supplement:35-45. HCFA Pub. No. 03311. Office of Research and Demonstrations, Health Care Financing Administration. Washington. U.S. Government Printing Office, Dec. 1990.
- Ray, W., Griffin, M., and Baugh, D.: Mortality Following Hip Fracture Before and After Implementation of the Prospective Payment System. *Archives of Internal Medicine* 150(10):2109-2114.

Indexes for Adjusting Medicaid Eligibility and Matching Rates

Project No.: 99-C-98526/1
Period: August 1991—July 1992
Funding: $ 52,040
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Jeffrey A. Buck, Ph.D.
Division of Program Studies

Description: For this project, researchers will evaluate the practicality of using various indexes of State costs of living for adjusting national income eligibility requirements. They will also evaluate measures of State fiscal capacity as a basis for modifying the formula for calculating the Federal medical assistance percentage.

Status: This project is in the early developmental stage.

Medicaid Analysis Project for States

Project No.: 500-90-0045
Period: September 1990—September 1992
(3 optional years)
Funding: $ 2,019,523
Award: Contract
Contractor: SysteMetrics/McGraw-Hill
104 West Anapamu Street
Santa Barbara, CA 93101
Project Officer: Penelope L. Pine
Division of Program Studies

Description: The general purpose of this contract is to extend the collection and data activities of person-level data from Medicaid Management Information Systems (MMISs) maintained by the States. Data will be collected for the five States that are currently participating in the Medicaid Tape-to-Tape project while providing an appropriate interface with the Medicaid Statistical Information System (MSIS). Activities will include standard descriptive tabulations, "Early Returns" reports, and feedback to the State Medicaid agencies. The focus of work will be to:

- Obtain person-level data on Medicaid enrollment, use, payments, and providers from State MMISs.
- Develop uniform data file structures to facilitate the comparison of Medicaid programs among States.

- Produce streamlined research data bases to support analysis of policy and program management alternatives for Medicaid.
- Provide a consistent complementary link between tape-to-tape activities and the developing MSIS.
- Produce person-level data files from the MSIS to study the validity and consistency of these data for research.

Status: The development of the 1989 enrollee, claims, and provider files is under way. A second year of funding will allow for development of 1990 data.

Washington State Perinatal Resources, Outcomes, and Utilization Data File

Project No.: HCFA-90-1264
Period: September 1990—September 1991
Funding: $ 24,958
Award: Contract
Contractor: Department of Health Services
School of Public Health and
Community Medicine
University of Washington
Seattle, WA 98195
Project Officer: Feather Ann Davis, Ph.D.
Division of Program Studies

Description: The purpose of this project is to prepare a data tape comprised of variables for each of the 36 counties in Washington. The data are to be obtained from several different sources. The variables include socioeconomic characteristics; availability of medical resources; community support for the Medicaid "First Steps" program; number of deliveries, by type of provider; prenatal care visits, by type of provider; prenatal care indexes (Kessner, Kotelchuck, 1st trimester, and 3rd trimester); birth rates, by insurance status, age, and race; low-birth-weight rates, by insurance status, age, and race; infant mortality, by insurance status, age, and race; neonatal intensive care unit admission rates, lengths of stay, patient days and costs; and maternal complications of delivery, by insurance status, age, and race.

Status: Work on this project was terminated by mutual agreement.

Medicare Beneficiary Program Data Working Paper

Funding: Intramural
Project Director: Charles R. Helbing
Division of Program Studies
Mandate: Social Security Amendments of 1965 (Public Law 89-97)

Description: The working paper, "Medicare Beneficiary Program Data, 1988," is a compilation of program statistics on health care benefits that are available under Medicare. One section is devoted exclusively to the out-of-pocket expenses (cost-sharing liabilities) of Medicare beneficiaries. For each specific section and Medicare benefit, an explanation of health care coverage and data analysis or interpretation is provided relative to patterns of growth over time as well as 1988 annual statistics on utilization, charges, and program payments. The sections of the working paper include:

I. Introduction (an overview of the Medicare program)
II. Summary of Medicare enrollment
III. Summary of Medicare program benefits
IV. Summary of Medicare beneficiary cost-sharing liability
V. Summary of the hospital insurance benefit for hospital inpatient services
VI. Summary of the hospital insurance benefit for skilled nursing facility services
VII. Summary of the hospital insurance benefit for home health agency services
VIII. Summary of the supplementary medical insurance benefit for physician services
IX. Summary of the supplementary medical insurance benefit for hospital outpatient services
X. Summary of end stage renal disease services
XI. Appendixes:
  A - Sources of data
  B - Description of diagnosis-related groups (DRGs): Fiscal year 1988
  C - Selected DRG statistics for all short-stay hospitals: Calendar year 1988
  D - Leading 200 Health Care Financing Administration Common Procedure Coding System codes: 1988
  E - Glossary

Status: The working paper, "Medicare Beneficiary Program Data, 1988," was disseminated internally in September 1991. The paper replaces the reports, notes, and briefs that were described in the 1990 *Status Report.*

Medicare Beneficiary Health Status Registry

Project No.: 500-90-0053
Period: April 1990—September 1992
September 1990—September 1991 (Design Phase)
September 1991—September 1992 (Field Test Phase)
Funding: $ 1.3 million
$ 396,940 (Design Phase)
$ 951,366 (Field Test Phase)
Award: Contract
Contractor: Research Triangle Institute
P.O. Box 12194
Research Triangle Park, NC 27709-2194
Project Officer: Lynne Penberthy, M.D.
Division of Beneficiary Studies

Description: The Medicare Beneficiary Health Status Registry is a longitudinal data base that will combine survey data on the elderly with Medicare's administrative data files. As currently envisioned, the survey data will be collected through a mailed self-administered questionnaire to 2.5 percent (40,000) of the elderly as they enter the Medicare program and at

decreasing intervals thereafter. Followup of nonrespondents will be via telephone interviews. Data will be gathered on risk factors, functional status, sociodemographic variables, medical history, and quality of life. This contract is for refining the sampling methodology and the development of the survey instrument. The optional second year of the contract will involve a field test of the instrument. The primary goal of the Registry is to measure the relationship of Medicare reimbursed services to the health status of Medicare beneficiaries while controlling for risk factors and additional sociodemographic factors such as insurance coverage, education level, and income. Health status will be defined through measures of quality of life, perceived health, current and past medical conditions and procedures, presence of risk factors for disease, functional status, and sociodemographics. Subsequent goals are to:

- Describe, analyze, and understand health and disease longitudinally from the time of enrollment to death in successive cohorts of Medicare beneficiaries. This includes measuring the progression of illness and decline in health of beneficiaries over time and the study of the elderly who are well to understand the aging process.
- Assess and evaluate the effectiveness and impact of specific medical and surgical interventions on the health, perceived health, quality of life, well-being and functional status of Medicare beneficiaries.
- Monitor access to care for special populations, including the ability to assess quantitative and qualitative differences in access to care. Qualitative access means that although individuals may have access, there may be differences in the quality of care, such as access to new technologies. Outcomes will be assessed while controlling for differences in severity of illness.
- Describe, analyze, and understand the use and costs of health care services as related to Medicare, the long-term utilization patterns and lifetime Medicare costs of individuals in successive cohorts over time as related to health and functional status at the person level.
- Provide a detailed sampling frame which may be used to select a highly efficient sample for studies of special subgroups in the Registry sample, such as specific disease conditions and racial or ethnic groups. This sampling frame will be cost effective because a module (a set of questions directed at a specific topic) would focus specifically on questions related to the subject of interest, but have longitudinal and other data previously gathered to use in the analysis.
- Provide information to monitor the existing Department of Health and Human Services' "Health People 2000" objectives for the elderly and to develop additional objectives, targeting the elderly population.
- Develop equitable payment adjustments for health maintenance organizations, preferred provider organizations, and other providers in rural areas.

Status: This project is in the latter part of the design phase in which the sampling methodology has been refined and the survey instruments will be designed. These will be field-tested in 1992.

Medicare and Medicaid Data Book

Funding: Intramural
Project Director: Herbert A. Silverman, Ph.D.
Division of Program Studies

Description: This report provides descriptive statistics on the Medicare and Medicaid programs and serves as a resource for public officials, researchers, policy analysts, and users and providers of health care. The report includes:

- A brief overview of the Medicare and Medicaid programs, and information on the relationships between the programs.
- Trends in the use and cost of Medicare and Medicaid benefits.
- Detailed information and statistics on the Medicare program, including eligibility, benefits, financing, and administration for both the hospital insurance and supplementary medical insurance programs.
- Detailed information and statistics on the Medicaid program, including eligibility criteria, recipient characteristics, benefit coverage, service use, expenditures, financing, and administration.
- Appendixes that provide addresses of Medicare intermediaries and carriers, Medicaid State agencies, medical assistance programs, and the offices in the Health Care Financing Administration responsible for the various facets of the Medicare and Medicaid programs.

Status: The *Medicare and Medicaid Data Book, 1990* was published in March 1991. Copies may be ordered from the Superintendent of Documents, U.S. Government Printing Office. The stock number is 017-060-00445-2, and the cost is $7.50 domestic; $9.36 foreign. The 1988 edition is stock number 017-060-00214-0, and the cost is $7.50 domestic; $9.36 foreign. The 1986 edition is stock number 017-060-00201-8, and the cost is $8 domestic; $10 foreign. The 1984 edition is stock number 017-070-00412-1, and the cost is $6.50 domestic; $8.13 foreign.

The Disease and Cost Impact of Influenza Epidemics on Medicare

Funding: Intramural
Project Director: A. Marshall McBean, M.D.
Division of Beneficiary Studies

Description: Influenza epidemics occur almost every year and result in unnecessary disease, hospitalization, and costs to the Medicare population. The morbidity and costs are being measured using Health Care Financing Administration hospitalization data for the years 1984-89.

Status: The effects of the annual influenza season and the secular changes have been described in presentations by staff at the Centers for Disease Control's 40th Epidemic Intelligence Service Conference. Pneumonia and influenza hospitalizations increased during the period 1984-89. Approximately 25 percent of hospital admissions in the winter months were diagnosed as pneumonia or influenza. Further analysis is continuing.

Patterns and Outcomes of Cancer Care in the Medicare Population

Funding: Intramural
Project Directors: James D. Lubitz and Gerald F. Riley
Division of Beneficiary Studies

Description: More than one-half of all cancer patients have Medicare coverage. The focus of this study is on these patients' Medicare utilization from time of diagnosis. The study will be conducted by using a data base that links Medicare data with cancer registry data collected through the National Cancer Institute's surveillance, epidemiology, and end results (SEER) program. The SEER program covers about 10 percent of the U.S. population. This data base contains information on the anatomic site of the primary cancer, histology, stage of the disease at diagnosis, and date of diagnosis for each new case of cancer in the geographic areas covered by the program. Linking SEER and Medicare data will provide opportunities for research on issues of access to medical care, Medicare costs of medical care obtained by cancer patients, and patterns of various types of medical care received by cancer patients diagnosed with various sites, stages, and histologies of cancer. Some specific questions to be addressed are:

- What are overall Medicare costs, by type of cancer and within cancer type, by stage of disease?
- What comorbidities are associated with cancer and how do they influence Medicare use and cost?
- What is the mix of care—on a per person basis—among community hospitals, teaching hospitals, and cancer centers?

Status: SEER and Medicare data have been linked for eight of nine registries for all cases diagnosed from 1973 to 1986. Researchers are conducting initial studies on total Medicare costs incurred by cancer patients and will present costs by stage at diagnosis, by demographic variables, and by geographic area. Additional linkages of SEER and Medicare will be made in fall 1991 for cases from the San Francisco-Oakland registry and for cases diagnosed during the period 1987-89 from all registries.

Hospitalization Rates and Mortality Study

Funding: Intramural
Project Director: Gerald F. Riley
Division of Beneficiary Studies

Description: Previous studies by other researchers have shown considerable variation among geographic areas in the rates at which selected procedures are performed on the Medicare elderly. This study provides hospitalization rates associated with 14 procedures commonly performed on the elderly for all U.S. metropolitan statistical areas and rural areas within States. The study also provides small-area rates of hospitalization for 26 diagnostic categories, including those defined in the hospital-specific mortality data release. Complementing the rates of hospitalization in the study are three types of mortality rates, all developed on the same small-area basis as the hospitalization data. The 3 types of mortality rates are number of deaths within 30 days of admission per 1,000 hospital discharges, number of deaths within 30 days of admission per 1,000 Medicare enrollees, and total number of deaths per 1,000 Medicare enrollees. The last type of mortality rate applies to diagnostic categories and not to procedures. The project is designed to:

- Obtain data on hospitalization from the 100-percent Medicare provider analysis and review file for 1986.
- Obtain data on total deaths by underlying cause for the aged population from the National Center for Health Statistics.
- Compute age- and sex-adjusted small-area rates of hospitalization and mortality.
- Derive summary statistics and graphs (e.g., coefficients of variation, correlations, maps, and boxplots).

Status: Results of the study were published in a two-volume set in June 1990. Volume 1 is entitled *Hospital Data by Geographic Area for Aged Medicare Beneficiaries: Selected Diagnostic Groups, 1986*; Volume 2 is entitled *Hospital Data by Geographic Area for Aged Medicare Beneficiaries: Selected Procedures, 1986*. Copies of the reports can be obtained from the National Technical Information Service (NTIS), accession numbers PB91-175935 (Volume 1) and PB91-175943 (Volume 2). Personal computer diskettes with county-level information on hospitalization and mortality can also be obtained from NTIS, accession numbers PB91-507384 (Volume 1) and PB91-507392 (Volume 2). A paper containing additional analyses of variation in hospitalization and mortality rates is in preparation.

Rehospitalization Study

Funding: Intramural
Project Director: Gerald F. Riley
Division of Beneficiary Studies

Description: In December 1987, the Health Care Financing Administration (HCFA) released hospital-specific mortality data to the public. The reason for releasing these data was to serve the public interest in quality of health care by providing information that hospitals, physicians, and consumers could use to help make decisions about selection of health care providers. HCFA is interested in releasing additional data to serve the same purpose. This study is designed to develop alternative outcomes (to mortality) for eight surgical procedures that could be useful in public releases as quality of care indicators. Primarily, this project is

looking at the utility of rehospitalization rates as quality of care indicators. This project is designed to:

- Develop outcome measures using the 100-percent Medicare provider analysis and review file. Rehospitalizations will be examined as well as adverse events occurring during the surgical stay.
- Convene panels of physicians to review data and make suggestions about identifying poor outcomes that could reflect quality of care problems.
- Develop rates of categories of adverse outcomes by demographic characteristics and by metropolitan statistical areas and rural areas within States.

Status: Three specialty panels of physicians were convened to identify adverse outcomes occurring during the initial stay or associated with a readmission. Rates of adverse outcomes were subsequently developed for the initial stay and for readmissions. The results of the study were published in June 1990 as a special report entitled *Rehospitalization by Geographic Area for Aged Medicare Beneficiaries: Selected Procedures, 1986-87.* Copies of the report can be obtained from the National Technical Information Service (NTIS), accession number PB90-258542. A personal computer diskette with data contained in the report is also available from NTIS, accession number PB91-507418. A paper containing additional analyses of outcomes related to coronary artery bypass graft and percutaneous transluminal coronary angioplasty is in preparation.

International Comparative Data and Analyses of Health Care Financing and Delivery Systems

Project No.: 500-88-0009
Period: May 1988—May 1993
Funding: $ 307,640
Award: Contract
Contractor: The Organization for Economic Cooperation and Development
2, rue André-Pascal
75775 Paris CEDEX 16
France
Project Officer: Leslie Greenwald
Division of Reimbursement and Economic Studies

Description: The Organization for Economic Cooperation and Development (OECD) originally consisted of the developed Western European nations plus the United States and Canada. OECD currently comprises 24 countries on 4 continents. The focus of this project is to develop, update, and refine an internationally comparable data base on health care spending patterns, prices, utilization, and delivery system characteristics in the OECD countries. The data developed under this contract will provide the basis for a series of analytical papers comparing international health systems and international variation in medical practice patterns (e.g., diagnostic-specific utilization of acute care inpatient facilities). The data are unique in that substantial efforts have been undertaken to make the data nearly compatible across countries. As a result, the data developed under this contract provide the best possible contemporary basis for performing cross-national comparisons of health systems.

Status: The contract has generated tabular data on expenditures, pricing, utilization, practice patterns, gross outcome measures, and general economic background information covering the years 1960 through 1990. More than a dozen papers on a variety of topics relating to international comparative health services research have been produced. The articles and data produced under this contract in its first year were published in the 1989 Annual Supplement of the *Health Care Financing Review* entitled "International Comparison of Health Care Financing and Delivery: Data and Perspectives." Single copies are available from the Superintendent of Documents, U.S. Government Printing Office, stock number 717-011-00024-4. The cost is $8 domestic; $10 foreign.

Noncovered Services

Geriatric Continence Evaluation Contract

Project No.: 500-87-0028
Period: October 1987—December 1989
Funding: $ 125,000
Award: Technical Support: Evaluation of Demonstrations
(See page 82)
Contractor: Mathematica Policy Research, Inc.
P.O. Box 2393
Princeton, NJ 08543-2393
Project Officer: Nancy A. Miller, Ph.D.
Division of Long-Term Care Experimentation

Description: The contractor, through the subcontractor SysteMetrics, Inc., evaluated the effectiveness of the Inpatient Geriatric Continence Research Project (IGCRP) as a means of determining the relative value of experimental approaches to geriatric incontinence compared with traditional methods of treatment and care for individuals with this distressing and difficult patient-care problem. The purpose of the evaluation was to determine the cost effectiveness of successful assessment and treatment methods being tested and to assess the applicability of the methods. Policy implications for the use of cost-effective assessment and treatments were presented in the context of current reimbursement criteria for incontinent patients. Additionally, as part of this evaluation, SysteMetrics conducted a more general facility-level analysis designed to examine relationships among the percentages of patients who were incontinent, the percentage not toileted or needing assistance in toileting, and other facility or resident characteristics of Medicare- and Medicaid-certified nursing homes.

Status: Two final reports have been received and are available from the National Technical Information Service: "Evaluation of the Geriatric Continence Research Project," accession number PB91-241695; and "The Correlates of Incontinence: An Analysis of

Nursing Home Data from the Medicare and Medicaid Automated Certification System," accession number PB91-241703. Based on the quantitative analysis, there was no evidence that the IGCRP was cost effective in terms of direct costs. No attempt was made to measure indirect and intangible costs and benefits. Although the project's treatment effect was statistically significant, the effect was too small to generate a benefit large enough to offset the additional costs of treatment. Findings from the facility-level analysis indicate that incontinence is a problem of major proportions in all sizes and types of nursing homes, affecting approximately two-thirds of all residents. Furthermore, the treatment patterns, in terms of toileting, as well as the use of catheters, varied across different types of facilities. These differences seemed to arise primarily from such factors as the State in which the facility is located and from patient functional status characteristics. However, staffing availability also appeared to be an important key factor in those facilities with a high Medicare caseload.

Evaluation of the Alcoholism Service Demonstration

Project No.: 500-89-0066
Period: October 1989—December 1991
Funding: $ 149,955
Award: Contract
Contractor: MayaTech Corporation
1398 Lamberton Drive
Silver Spring, MD 20902
Project Officer: Edward T. Hutton, Ph.D.
Division of Health Systems and Special Studies

Description: Under this project, the contractor will produce a final report that addresses the effectiveness of the demonstration that expanded Medicare and/or Medicaid coverage to include freestanding alcoholism treatment centers. The contractor will examine the impact of the demonstration on the use and cost of services. The project is supported by funds from the National Institute on Alcohol Abuse and Alcoholism, Public Health Service, and the Health Care Financing Administration.

Status: The data files on providers and Medicare beneficiaries who participated in the demonstration and the files on services reimbursed under the demonstration were analyzed to produce a draft final report, which is under review. The final version is expected early in 1992.

Small Business Innovation Research

Personal Health Risk Communication for Medicare Beneficiaries

Project No.: 500-91-0028
Period: June 1991—February 1992
Funding: $ 35,710
Award: Contract
Contractor: University Park Pathology Associates, PS
1408 West University Avenue
Urbana, IL 61801
Project Officer: Sydney P. Galloway
Office of Operations Support
Mandate: Small Business Innovation Development Act of 1982
(Public Law 97-219; amended by the Small Business Innovation Research Program, Extension, Public Law 99-443)

Description: The aim of this project is to develop two inter-related health education and risk communication systems. They are to inform Medicare beneficiaries of the relationship between health habits/health status and health outcomes and the potential for risk reduction.

Status: This project is in Phase I (early development stage). Because the Small Business Innovation Research program sponsors the development of commercially viable products, it carefully protects the developer's intellectual property. Any detailed information on this project and the product must be obtained from the contractor.

Diagnosis-Related-Group-Specific Resource Management Software for Hospitals

Project No.: 500-88-0036
Period: June 1988—June 1991
Funding: $ 117,592
Award: Contract
Contractor: John Rafferty and Associates
14012 North 80th Place
Scottsdale, AZ 85260
Project Officer: Sydney P. Galloway
Office of Operations Support
Mandate: Small Business Innovation Development Act of 1982
(Public Law 97-219; amended by the Small Business Innovation Research Program, Extension, Public Law 99-443)

Description: The aim of this project was to develop a software package for predicting and evaluating hospital resource use and needs on a diagnosis-related-group basis.

Status: This project has been completed. Because the Small Business Innovation Research program sponsors the development of commercially viable products, it carefully protects the developer's intellectual property. Any detailed information on this project and the product must be obtained from the contractor.

Bar-Coded Service Data Entry for Nursing Homes

Project No.: 500-91-0034
Period: June 1991—December 1991
Funding: $ 31,693
Award: Contract
Contractor: DMH Associates, Inc.
5901 Palisade Avenue
Riverdale, NY 10471

Project Officer: Sydney P. Galloway
Office of Operations Support

Mandate: Small Business Innovation Development Act of 1982
(Public Law 97-219; amended by the Small Business Innovation Research Program, Extension, Public Law 99-443)

Description: The aim of this project is to develop bar-code technology to collect and report patient service data in nursing homes.

Status: This project is in Phase I (early development stage). Because the Small Business Innovation Research program sponsors the development of commercially viable products, it carefully protects the developer's intellectual property. Any detailed information on this project and the product must be obtained from the contractor.

Automated Monitoring for Nursing Home Quality Assessment

Project No.: 500-88-0041
Period: June 1988—December 1991
Funding: $ 121,055
Award: Contract
Contractor: Schaller Associates, Inc.
3200 North Central Avenue, Suite 680
Phoenix, AZ 85012
Project Officer: Sydney P. Galloway
Office of Operations Support

Mandate: Small Business Innovation Development Act of 1982
(Public Law 97-219; amended by the Small Business Innovation Research Program, Extension, Public Law 99-443)

Description: For this project, the contractor is developing an automated quality of care monitoring program for nursing home administrators. The software program will generate reports on profiles of care and will note exceptions to norms. It is designed for use by nursing and support staff.

Status: The contractor is finishing Phase II (product development stage), and it is approximately 90 percent complete. Because the Small Business Innovation Research program sponsors the development of commercially viable products, it carefully protects the developer's intellectual property. Any detailed information on this project and the product must be obtained from the contractor.

Acquired Immunodeficiency Syndrome Comprehensive Monitoring System Pilot Project

Project No.: 500-88-0040
Period: June 1988—June 1991
Funding: $ 125,846
Award: Contract
Contractor: Research Consultants
1236 South Masselin Avenue
Los Angeles, CA 90019

Project Officer: Sydney P. Galloway
Office of Operations Support

Mandate: Small Business Innovation Development Act of 1982
(Public Law 97-219; amended by the Small Business Innovation Research Program, Extension, Public Law 99-443)

Description: There were four objectives for this project:

- To identify the service components and the source of payment for acquired immunodeficiency syndrome (AIDS) and AIDS-related complex patients who receive care in alternative settings (apart from traditional institutional settings).
- To identify the services that are requested but not available in alternative care programs.
- To develop standard protocols for collecting units of service use and cost data in AIDS alternative care settings.
- To develop a microcomputer-based system for monitoring and managing costs for AIDS patients in alternative settings.

Status: This project has been completed. Because the Small Business Innovation Research program sponsors the development of commercially viable products, it carefully protects the developer's intellectual property. Any detailed information on this project and the product must be obtained from the contractor.

Prove the Feasibility of a Low-Cost, High-Quality Intravenous Flow Control Mechanism

Project No.: 500-91-0029
Period: June 1991—December 1991
Funding: $ 34,764
Award: Contract
Contractor: IV Systems, Inc.
131 Forest Street
Winchester, MA 01890
Project Officer: Sydney P. Galloway
Office of Operations Support

Mandate: Small Business Innovation Development Act of 1982
(Public Law 97-219; amended by the Small Business Innovation Research Program, Extension, Public Law 99-443)

Description: The aim of this project is to develop a product that can deliver intravenous fluid at a controlled rate over an extended period of time. The contractor has developed a refined clamp for intravenous tubing and is now developing a low-cost device that will compensate for changes in pressure in the intravenous delivery system.

Status: This project is in Phase I (early development stage). Because the Small Business Innovation Research program sponsors the development of commercially viable products, it carefully protects the developer's intellectual property. Any detailed information on this project and the product must be obtained from the contractor.

A Diabetes Patient Management System

Project No.: 500-91-0032
Period: June 1991—December 1991
Funding: $ 34,700
Award: Contract
Contractor: Marktech Systems, Inc.
10285 Yellow Circle Drive
Minnetonka, MN 55343
Project Officer: Sydney P. Galloway
Office of Operations Support
Mandate: Small Business Innovation Development Act of 1982
(Public Law 97-219; amended by the Small Business Innovation Research Program, Extension, Public Law 99-443)

Description: The aim of this project is to develop a microcomputer-based system that will provide a means of promulgating and enforcing long-term standardized high-quality care for patients having diabetes mellitus. The system will also track patients over time, including the clinical outcomes resulting from intervention.

Status: This project is in Phase I (early development stage). Because the Small Business Innovation Research program sponsors the development of commercially viable products, it carefully protects the developer's intellectual property. Any detailed information on this project and the product must be obtained from the contractor.

Feasibility Study of a Pharmaceutical Case Management Program to Control Costs and Increase Quality Outcomes of Pharmaceutical-Related Care

Project No.: 500-91-0035
Period: June 1991—December 1991
Funding: $ 35,771
Award: Contract
Contractor: Mikalix and Company
404 Wyman Street, Suite 375
Waltham, MA 02154
Project Officer: Sydney P. Galloway
Office of Operations Support
Mandate: Small Business Innovation Development Act of 1982
(Public Law 97-219; amended by the Small Business Innovation Research Program, Extension, Public Law 99-443)

Description: The aim of this project is to develop a pharmaceutical management software product that will identify inappropriate pharmaceutical therapies for the elderly.

Status: This project is in Phase I (early development stage). Because the Small Business Innovation Research program sponsors the development of commercially viable products, it carefully protects the developer's intellectual property. Any detailed information on this project and the product must be obtained from the contractor.

Improving the Quality of Medical Care Documentation Using Voice-Activated Word Processors

Project Nos.: 500-90-0021 (Phase I)
500-91-0037 (Phase II)
Period: June 1990—December 1990 (Phase I)
June 1991—June 1992 (Phase II)
Funding: $ 34,717 (Phase I)
$ 99,964 (Phase II)
Award: Contract
Contractor: Birch and Davis Associates, Inc.
8905 Fairview Road
Silver Spring, MD 20910
Project Officer: Sydney P. Galloway
Office of Operations Support
Mandate: Small Business Innovation Development Act of 1982
(Public Law 97-219; amended by the Small Business Innovation Research Program, Extension, Public Law 99-443)

Description: The contractor is examining the acceptance by physicians of using a voice-activated word processor to document medical records data. In Phase I, the contractor identified and recruited two emergency room physician groups and obtained the cooperation of the hospitals in which they practice. The contractor will also study the procedures in each of the candidate emergency rooms. In Phase II, the contractor has installed the equipment in the test sites and is examining the manner and level of acceptance by the physicians.

Status: The project is in Phase II (testing and data gathering stage). Because the Small Business Innovation Research program sponsors the development of commercially viable products, it carefully protects the developer's intellectual property. Any detailed information on this project and the product must be obtained from the contractor.

Expert-System Software for Quality Assessment

Project No.: 500-91-0031
Period: June 1991—December 1991
Funding: $ 24,000
Award: Contract
Contractor: John Rafferty and Associates
14012 North 80th Place
Scottsdale, AZ 85260
Project Officer: Sydney P. Galloway
Office of Operations Support
Mandate: Small Business Innovation Development Act of 1982
(Public Law 97-219; amended by the Small Business Innovation Research Program, Extension, Public Law 99-443)

Description: The aim of this project is to develop a microcomputer software package providing technical support for health care quality assessments. The tool will attempt to fill gaps in the technical knowledge of quality assessment personnel. It will assist in defining useful and reasonable questions for study, help review

research design alternatives, review possible sampling techniques, discuss randomness (and assist with random selection of samples), and help with the analyses and interpretation of results.

Status: This project is in Phase I (early development stage). Because the Small Business Innovation Research program sponsors the development of commercially viable products, it carefully protects the developer's intellectual property. Any detailed information on this project and the product must be obtained from the contractor.

Expert System for Medical Review

Project No.: 500-91-0033
Period: June 1991—December 1991
Funding: $ 34,800
Award: Contract
Contractor: Columbia Cascade, Inc.
12030 Sunrise Valley Drive, Suite 440
Reston, VA 22091-3409
Project Officer: Sydney P. Galloway
Office of Operations Support
Mandate: Small Business Innovation Development Act of 1982
(Public Law 97-219; amended by the Small Business Innovation Research Program, Extension, Public Law 99-443)

Description: The aim of this project is to perform a feasibility study to determine if currently available expert systems software for microcomputers is capable of determining and completing medical review procedures which are currently performed at three levels by insurance claims handling firms.

Status: This project is in Phase I (early development stage). Because the Small Business Innovation Research program sponsors the development of commercially viable products, it carefully protects the developer's intellectual property. Any detailed information on this project and the product must be obtained from the contractor.

Development of New Automatic Interactions Detection Software

Project Nos.: 500-89-0031 (Phase I)
500-90-0022 (Phase II)
Period: June 1990—June 1992
Funding: $ 25,839 (Phase I)
$ 73,870 (Phase II)
Award: Contract
Contractor: Austin Data Management Associates
P.O. Box 4358
Austin, TX 78765
Project Officer: Sydney P. Galloway
Office of Operations Support
Mandate: Small Business Innovation Development Act of 1982
(Public Law 97-219; amended by the Small Business Innovation Research Program, Extension, Public Law 99-443)

Description: The contractor is developing a new computer software package to perform automatic interactions detection. This was used in the development of the Medicare hospital payment system based on diagnosis-related groups. The software is also being used to develop case-mix classification systems. The major improvement over existing programs is the shift of the software capability from a mainframe to a personal computer format. This move, by itself, will dramatically improve the usability of the programs. The software product will incorporate statistical methods developed in the last 10 years which will further improve the ability of a user (who is not a programmer) to operate automatic interaction detections software.

Status: Phase I (basic design) was completed under contract number 500-89-0031. This contract is for Phase II (product development). Because the Small Business Innovation Research program sponsors the development of commercially viable products, it carefully protects the developer's intellectual property. Any detailed information on this project and the product must be obtained from the contractor. A preliminary version of the software was successfully used by the Health Care Financing Administration in agency-sponsored research to develop the resource utilization group III case-mix system for nursing home residents.

Design and Validation of Decision-Support Software for the Critical Care Area

Project No.: 500-91-0030
Period: June 1991—December 1991
Funding: $ 35,305
Award: Contract
Contractor: Huron Systems, Inc.
555 South Forest
Ann Arbor, MI 48104
Project Officer: Sydney P. Galloway
Office of Operations Support
Mandate: Small Business Innovation Development Act of 1982
(Public Law 97-219; amended by the Small Business Innovation Research Program, Extension, Public Law 99-443)

Description: The aim of this project is to design and validate software that can be used for decision support (both short-term and long-term) in the critical care area. This will include the determination of bed and staffing requirements and operating room scheduling policies.

Status: This project is in Phase I (early development stage). Because the Small Business Innovation Research program sponsors the development of commercially viable products, it carefully protects the developer's intellectual property. Any detailed information on this project and the product must be obtained from the contractor.

Hypermedia-Based Medicare Beneficiary Information Support System

Project Nos.: 500-90-0020 (Phase I)
500-91-0036 (Phase II)
Period: June 1990—September 1991 (Phase I)
June 1991—June 1992 (Phase II)
Funding: $ 30,385 (Phase I)
$ 164,727 (Phase II)
Award: Contract
Contractor: Technovation Training, Inc.
Executive Court Professional Center
3454 Oak Alley Court, Suite 209
Toledo, OH 43606-1317
Project Officer: Sydney P. Galloway
Office of Operations Support
Mandate: Small Business Innovation Development Act of 1982
(Public Law 97-219; amended by the Small Business Innovation Research Program, Extension, Public Law 99-443)

Description: The purpose of this project is to develop a hypermedia-based information system for Medicare beneficiaries.

Status: The project is in Phase II (project development stage). During Phase I, it was determined that such a system could be developed based on hard-copy information from the Health Care Financing Administration. Because the Small Business Innovation Research program sponsors the development of commercially viable products, it carefully protects the developer's intellectual property. Any detailed information on this project and the product must be obtained from the contractor.

A Planning Process for Changing Rural Health Care Delivery Systems

Project Nos.: 500-89-0033 (Phase I)
500-90-0023 (Phase II)
Period: June 1989—December 1990 (Phase I)
June 1990—June 1992 (Phase II)
Funding: $ 37,359 (Phase I)
$ 110,882 (Phase II)
Award: Contract
Contractor: Public Health Resource Group
60 York Street
Portland, ME 04101
Project Officer: Sydney P. Galloway
Office of Operations Support
Mandate: Small Business Innovation Development Act of 1982
(Public Law 97-219; amended by the Small Business Innovation Research Program, Extension, Public Law 99-443)

Description: The contractor is developing a set of planning protocols, statistical algorithms, and computer software to assist rural hospitals and their communities in evaluating the efficacy and financial condition of the hospitals and the health care delivery system.

Status: The project is in Phase II (product development and testing). During Phase I, it was determined that this system could be developed based on available data. Because the Small Business Innovation Research program sponsors the development of commercially viable products, it carefully protects the developer's intellectual property. Any detailed information on this project and the product must be obtained from the contractor.

Research Centers and Evaluation Support

The RAND/University of California, Los Angeles/ Harvard Health Care Financing Policy Research Center

Project No.: 99-C-98489/9
Period: March 1984—July 1992
Funding: $ 13,508,386 (Total funds awarded for projects from March 1984 through September 1991)
Award: Cooperative Agreement
Awardee: The RAND Corporation
1700 Main Street
Santa Monica, CA 90406
Project Coordinator: Michael J. Baier
Office of Operations Support

Description: The primary responsibility of the RAND/University of California, Los Angeles (UCLA)/Harvard Health Care Financing Policy Research Center is to provide expert consultation in planning, implementing, and evaluating research and demonstrations studies related to the ongoing functioning of the Medicare and Medicaid programs. The RAND Corporation is the principal partner organization for the Research Center. The UCLA School of Public Health and Harvard University's Division of Health Policy Research and Education have affiliated with RAND as subcontractors under this cooperative agreement. The Center has provided support and expertise on priority initiatives in all major areas of program activity.

Status: Each year under this cooperative agreement, the RAND/UCLA/Harvard Research Center and the Health Care Financing Administration jointly develop an agenda of specific topics and projects. The Center is currently in its eighth year of operation. All of the projects conducted from October 1990 through September 1991 under this cooperative agreement are described in the appropriate sections of this *Status Report*. The following is a list of the project titles:

Quality of Care

- Assessment and Use of Clinical Staging Systems.
- Interpreting Hospital Mortality Data: How Much Can Patient Severity and Quality of Care Explain?
- Evaluating Quality of Care for Surgical Patients: Using Diagnosis-Related Group and Quality of Care Data for Research on Hip Patients.

Physician and Ambulatory Care Payment Systems

- Multiple Hospital Visits.
- Medical Visit Coding.
- Policy Implications of Alternative Volume Performance Standards.
- Concurrent Care during Surgical Admissions.
- Physician Practice Patterns.
- Dialysis Codes and Billing Patterns.
- Analysis of Group-Based Methods for Medicare Fee Schedule Refinement.
- Refining the Relative Work Component of the Medicare Fee Schedule.
- Effects of Changes in Reimbursement for Overpriced Procedures.
- Assistants at Surgery: Geographic Variation.
- Adjusting Physician Payment for Malpractice Risk.
- Designing a Study of Components of the Dialysis Monthly Capitation Payment.
- Effectiveness of Ambulatory Cardiac Monitoring.
- Analysis of Utilization and Cost Data from Comprehensive Outpatient Rehabilitation Facilities.

Capitated Payment Systems

- Evaluation of the Prepaid Managed Health Care Demonstration.
- Beneficiary Incentives to Choose Alternative Health Plans.

Hospital Payment

- Alternatives for Recalibrating Diagnosis-Related Group Relative Weights.
- Measuring Components of Case-Mix Change.
- Do Low-Income Patients Have Costlier Hospital Stays?
- Assessment of Recent Changes in Prospective Payment System Outlier Policy.
- Assessment of Potential Refinements to the Prospective Payment System Outlier Payment Policy.
- Determinants of Hospital Costs and Their Growth.
- Indirect Medical Education and Small Teaching Hospitals.
- Health Care for Poor and Rural Hospital Patients.
- Defining an Efficient Hospital.
- Hospital Cash Flow Statements.

Program Efficiencies, Analyses, and Refinements

- Center Billings for Ancillary Dialysis Services.
- Rates of Inpatient and Outpatient Shunt Procedures for End Stage Renal Disease Beneficiaries.
- Medicaid Data Needs.
- Description and Analysis of State Medicaid Drug Benefits.

Health Care Prevention and Access

- Relationships between Household Income, Health Insurance Status, and Access to Medical Care.
- Access to Kidney Transplantation: An Examination of the Decision to Transplant.
- Access to Kidney Transplant Waiting List.
- Damaged Children: Implications for the Medicaid System.

Subacute and Long-Term Care

- Study of Post-Acute Care in Health Maintenance Organizations: Implications for Bundling.
- The Effects of the Human Immunodeficiency Virus Epidemic on the Uses of Medicaid by Women and Children.
- Changes in Post-Hospital Care Utilization among Medicare Patients.

Brandeis University Health Policy Research Consortium

Project No.: 99-C-98526/1
Period: March 1984—July 1992
Funding: $ 12,943,396 (Total funds awarded for projects from March 1984 through September 1991)
Award: Cooperative Agreement
Awardee: Brandeis University
Heller Graduate School
415 South Street
Waltham, MA 02254
Project Coordinator: Michael J. Baier
Office of Operations Support

Description: The Brandeis University Health Policy Research Consortium (HPRC) includes the Boston University School of Medicine; the Center for Health Economics Research, Needham, Massachusetts; and The Urban Institute Health Policy Center, Washington, D.C. These institutions provide expertise in the areas of health services delivery issues, physician payment alternatives, and long-term care policy options, as well as microsimulation and data processing capabilities.

Status: Each year under this cooperative agreement, the Brandeis HPRC and the Health Care Financing Administration jointly develop an agenda of specific topics and projects. The Center is currently in its eighth year of operation. All of the projects conducted from October 1990 through September 1991 under this cooperative agreement are described in the appropriate sections of this *Status Report*. The following is a list of the project titles:

Quality of Care

- Evaluating Quality of Care for Hospitalized Patients.
- Implementing Findings on Volume and Quality.
- Clinical Homogeneity of Severity of Illness Measures.

Physician and Ambulatory Care Payment Systems

- New Patient Visit Codes.
- Group Volume/Intensity Standards Research.
- Methods for Tracking Volume/Intensity Change.
- Analysis of Group-Specific Volume Performance Standards.
- Concurrent Care during Surgery.
- Beneficiary Use of Services over Time.
- Analysis of 1988 Physicians' Practice Costs and Income Survey Equipment Supplement.
- A Comparison of Medicare and Canadian Physician Fee Schedules.

- Integrating Results of Physician Practice Cost Surveys.
- Global Fees for Surgery.
- Surgical Global Fee Packages.
- Multiple Physicians Furnishing Surgery.
- Place of Service Payment Differentials.
- Urban and Rural Differences in Physician Practices.
- Analysis of Malpractice Premium Data.
- Bundling the Lab-Handling Fee in the Office Visit Payment Rate.
- Anesthesia Payments.
- Economies in Physician Practice.
- Inefficiencies in Physician Expenses: Implications for the Medicare Fee Schedule.
- Comparison of Medicare Fees to Private Payers.
- Trends in Access to Physician Services.
- Physician Income over Time.
- Exploring Hospital Outpatient Department Physician Services.

Capitated Payment Systems

- Examination of Alternatives to the Adjusted Average Per Capita Cost Geographic Factor.
- Impacts of the Working Aged on Medicare Expenditure Rates.
- What Makes Successful Medicaid Health Maintenance Organizations Work?
- Analysis of Implementation Issues Related to a Capitated Acute and Long-Term Care Service Delivery System.
- Analysis of Availability of Person-Specific Data for Medicaid Managed-Care Delivery Systems.
- Design of the Second Generation Social Health Maintenance Organization.

Hospital Payment

- Geographic Variation in Hospital Nonlabor Input Prices and Expenses.
- Monitoring Hospital Productivity.
- Graduate Medical Education Payment.
- Monitoring Hospital Costs and Productivity.
- Monitoring Hospital Closures, Mergers, Openings, and Changes in Ownership.
- Assessing Medicare Hospital Payment Levels.
- The Potential Use of Hospital Choice Models in Analyzing Essential Access Community Hospital and Rural Primary Care Hospital Designations.
- Update of the Tax Equity and Fiscal Responsibility Act Hospital Financial Status.

Program Efficiencies, Analyses, and Refinements

- Indexes for Adjusting Medicaid Eligibility and Matching Rates.

Health Care Prevention and Access

- Analyzing Durations of Spells without Health Insurance: How Many Types of People Have Chronic versus Short-Term Spells?
- Extending Medicaid Coverage of Substance Abuse Treatment to Eligible Pregnant Women: Assessment of Issues and Costs.

Subacute and Long-Term Care

- Analysis of Post-Acute Care Use for Selected Diagnosis-Related Groups.
- Capitation Reimbursement for Frail Elderly.
- Testing the Predictive Validity of Using Medicare Claims Data to Target High-Cost Patients.
- Cohort Analysis of Disabled Elderly.
- Study of Alternative Out-of-Home Services for Respite Care.
- Financial Impact to Beneficiaries of Nursing Home Care.
- Interaction of Medicaid and Private Long-Term Care Insurance.
- Use of Medicare Part A and Part B in Nursing Homes.
- Activities of Daily Living Measurements as Determinants of Eligibility.
- Impacts of Long-Term Care Supply Differences on Medicare Service Use.
- Urban/Rural Variation in Home Health Agency and Nursing Home Services.
- Determinants of Home Care Costs.

Project HOPE Health Policy Research Center

Project No.: 99-C-99168/3
Period: January 1988—July 1992
Funding: $ 3,632,741 (Total funds awarded for projects from January 1988 through September 1991)
Award: Cooperative Agreement
Awardee: The People-To-People Health Foundation, Inc.
Two Wisconsin Circle, Suite 500
Chevy Chase, MD 20815
Project Coordinator: Leslie A. Mangels
Office of Operations Support

Description: On November 19, 1987, Project HOPE's (Health Opportunity for People Everywhere) application as a research center for the Health Care Financing Administration (HCFA) was approved. The cooperative agreement is currently in effect through July 31, 1992. Under this cooperative agreement, the three major subcontractors to Project HOPE are the Vanderbilt University Health Policy Center; Medical College of Virginia Williamson Institute; and Social and Scientific Systems, Inc.

Status: Each year under this cooperative agreement, Project HOPE Health Policy Research Center and HCFA jointly develop an agenda of specific topics and projects. The Center is currently in its fourth year of operation. All of the projects conducted from October 1990 through September 1991 under this cooperative agreement are described in the appropriate sections of this *Status Report*. The following is a list of the project titles:

Physician and Ambulatory Care Payment Systems

- Considerations of Inappropriate Utilization and Access Adjustments of Medicare Volume Performance Standards.
- Billing Patterns for Critical-Care Physician Services.
- Psychiatric Codes and Billing Patterns.
- An Analysis of Vision Care Services.

- Survey of State Regulation of Physician Office Medical Equipment.
- Statistical Properties of Physician Practice Cost Surveys.
- Technology Change, Medicare Volume Performance Standards, and Medicare Expenditure Growth.
- Analysis of Technological Changes in Physician Services.
- Bundling Test Interpretation Fees into Medical Visit Fees.
- Beneficiary Access to and Utilization of Physician Services: Developing Baseline and Followup Measures for Assessing Physician Payment Reform.
- Physician Payment Differentials by Board Certification Status.

Capitated Payment Systems

- Working Aged Beneficiaries: Program Impacts and Implications for the Adjusted Average Per Capita Cost.
- Developing the Design for a Demonstration of Medicare Payment for Community Nursing Organizations.

Hospital Payment

- Development of Patient Origin and Transfer Data.
- Examination of Alternative Approaches for Graduate Medical Education Payment through Medicare.
- Impact of the Growth in Ambulatory Procedures and Diagnostic Services on Inpatient Care.
- Problems in Determining a Hospital's Level of Uncompensated Care.
- Examination of Alternative Approaches for Graduate Medical Education Payment through Medicare: Continuation of Prior Study.
- Study of Substitution of Rehabilitation for Hospital Services.
- Standardized Payment Systems.

Program Efficiencies, Analyses, and Refinements

- Use of Market Force Dynamics to Set Medicare Fee Schedules.
- Providing Technical Assistance to the Advisory Council on Social Security.
- Pricing and Coverage Decisions for New and Existing Technologies.
- An Analysis of Medicare Expenditures for Ambulance Services.

Subacute and Long-Term Care

- High-Cost Hospice Care.
- Study of Medicare Home Health Agency Use of the Home Health "Case Management" Benefit.

University of Minnesota Research Center

Project No.: 99-C-99169/5
Period: January 1988—July 1992
Funding: $ 3,915,332 (Total funds awarded for projects from January 1988 through September 1991)
Award: Cooperative Agreement
Awardee: University of Minnesota
1919 University Avenue
St. Paul, MN 55104
Project Coordinator: Michael J. Baier
Office of Operations Support

Description: On November 19, 1987, the University of Minnesota's application as a research center for the Health Care Financing Administration (HCFA) was approved. The cooperative agreement is currently in effect through July 31, 1992. The University of Pennsylvania and Mathematica Policy Research, Inc., are two major subcontractors affiliated with the University of Minnesota under this cooperative agreement.

Status: Each year under this cooperative agreement, the University of Minnesota Research Center and HCFA jointly develop an agenda of specific topics and projects. The center is currently in its fourth year of operation. All of the projects conducted from October 1990 through September 1991 under this cooperative agreement are described in the appropriate sections of this *Status Report*. The following is a list of the project titles:

Quality of Care

- Outcome Measures for Assessment of Hospital Care.
- Psychoactive Drug Use among Nursing Home Elderly.

Physician and Ambulatory Care Payment Systems

- Analysis of the Impact of Release of Medicare Carrier Prepayment Medical Review Screens on Physician Billings.
- Allocating Practice Costs: Conceptual Issues.
- Allocating Practice Costs: Simulations and Other Empirical Work.
- Efficient Volume Pricing of the Technical Component for Diagnostic Procedures.
- Diagnostic Tests—The Technical Component: Provider Volume and Ownership Patterns.
- Diagnostic Testing: Policy Analysis of Pricing Options.
- Economies in Furnishing Physician Services.
- Determinants of Cost of Care: The Influence of Physician Style versus Patient Characteristics.
- Ambulatory Cardiac Monitoring.
- Computer-Assisted Test Interpretation.

Capitated Payment Systems

- Open-Ended Health Maintenance Organizations and Medicare.
- Quality Assurance Systems in Health Maintenance Organizations.
- Alternatives to Fee for Service as a Base for Health Maintenance Organization Premium Setting.
- Study of the Second Generation Social Health Maintenance Organization.

Hospital Payment

- Medicare Hospital Payment Policies: Impact on the Nursing Shortage.
- Medical Assistance Facility Certification Criteria.

Program Efficiencies, Analyses, and Refinements

- Volume-Adjusted Payment for Clinical Laboratory Services.
- Laboratory Industry Technology and Productivity Changes.
- Impact of Omnibus Budget Reconciliation Act Drug Regulations: Nursing Home Trends in Rates of Drug Use.
- Design of Interventions to Reduce Drug-Related Adverse Events among Community-Resident, Elderly Medicaid and Medicare Patients.
- An Assessment of Private Sector Prescription Drug Utilization Review Programs.
- Study of Inappropriate Use of Medications by Medicare Beneficiaries.

Health Care Prevention and Access

- Feasibility Study to Examine the Cost Effectiveness of Medicaid Expansions.
- Medicaid: Neonatal Intensive Care Unit Costs.

Subacute and Long-Term Care

- Program for All-Inclusive Care for the Elderly (On Lok) Case Study.
- Quality of Care in the Program for All-Inclusive Care for the Elderly Model.
- Bundling of Acute and Post-Acute Care Services into Payments for an Episode of Care.
- Analysis of Home Health Cost and Service Utilization Issues.
- Categorization of Nursing Homes and Rehabilitation Facilities.
- Implementing Federal Regulations in Nursing Homes: A Conceptual Paper.
- Goals and Strategies for Financing Long-Term Care.
- Analysis of Costs, Patient Characteristics, Access, and Service Use in Urban/Rural Home Health Agencies.

Technical Support: Evaluation of Demonstrations

Project Nos.: 500-87-0028; 500-87-0029; 500-87-0030
Period: June 1987—June 1992
Funding: $ 14,743,000
Award: Contracts
Contractors: Mathematica Policy Research, Inc.
P.O. Box 2393
Princeton, NJ 08543-2393

Lewin/ICF
1090 Vermont Avenue, NW., Suite 700
Washington, DC 20005

Abt Associates, Inc.
55 Wheeler Street
Cambridge, MA 02138-1168
Project Officer: Tony Hausner, Ph.D.
Division of Long-Term Care Experimentation

Description: The Health Care Financing Administration (HCFA) has awarded indefinite quantity contracts to Mathematica Policy Research Inc., Lewin/ICF, and Abt Associates, Inc. These contracts are designed to assist HCFA in evaluating demonstrations through the use of small-scale tasks that can be awarded within short timeframes. The three firms will compete for each task.

Status: All of the currently awarded projects are described in the appropriate sections of this *Status Report*. The following is a list of the project titles:

Quality of Care

- New York State Quality Assurance System Evaluation.

Physician and Ambulatory Care Payment Systems

- Evaluation of the Physician Preferred Provider Organization Demonstration.
- Medicare Cataract Surgery Alternate Payment Demonstration.
- Medicare Participating Heart Bypass Center Demonstration.
- Evaluation of New York State Products of Ambulatory Care Demonstration Project.

Capitated Payment Systems

- Evaluation of Diagnostic Cost Group Pilot Demonstration.
- Evaluation of the Municipal Health Services Program.
- Evaluation of United Mine Workers of America Demonstration.

Hospital Payment

- Rural Health Transition Grant Evaluation.
- Evaluation of the Essential Access Community Hospital Program.
- Evaluation of the Ventilator-Dependent Unit Demonstration.

Program Efficiencies, Analyses, and Refinements

- Staff-Assisted Home Dialysis Demonstration.
- Geriatric Continence Evaluation Contract.

Health Care Prevention and Access

- Cross-Cutting Evaluation of Medicare Prevention Demonstrations under the Consolidated Omnibus Budget Reconciliation Act.
- Implementation of the Cost-Effectiveness Study of Medicare Coverage for Influenza Vaccine.
- Evaluation of the Omnibus Budget Reconciliation Act of 1987 Medicare Payment for Therapeutic Shoes for Individuals with Severe Diabetic Foot Disease Demonstration.
- Evaluation of the Medicaid Expansion Demonstrations.
- Evaluation Design of Demonstration for Improving Access to Care for Pregnant Substance Abusers.

Subacute and Long-Term Care

- Evaluation Design for the Medicare Alzheimer's Disease Demonstration.
- Evaluation of Demonstration to Provide Medicaid Coverage for Human Immunodeficiency Virus-Positive Individuals.
- Prior and Concurrent Authorization Demonstrations.

Drug Utilization and Expenditure Studies

Impact of Omnibus Budget Reconciliation Act Drug Regulations: Nursing Home Trends in Rates of Drug Use

Project No.: 99-C-99169/5
Period: August 1991—July 1992
Funding: $ 25,000
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Marvin A. Feuerberg, Ph.D.
Division of Long-Term Care Experimentation

Description: The purpose of this project is to study the impact of the first year of the Omnibus Budget Reconciliation Act (OBRA) of 1987 on the use of psychotropic drugs in Minnesota nursing homes. An analysis of trends in rates of psychotropic drugs before and after the implementation of the OBRA Drug Regulations will focus on:

- The use of antipsychotic drugs.
- The use of antianxiety drugs.
- The rates of ineligible use of antipsychotic drugs.

Ineligible is defined as the use of an antipsychotic drug without the appropriate justification as defined in the Health Care Financing Administration Guidelines. All rates will be adjusted for nursing home case-mix. Data for this statistical analysis will be patient information in the case-mix reimbursement system, a secondary source data base available from the Minnesota Department of Health.

Status: This project is in the early developmental stage.

The Utilization of Pharmaceuticals by the Elderly Receiving Drug Benefits under State-Sponsored Programs

Project No.: 18-C-99191/4
Period: September 1988—December 1989
Funding: $ 91,315
Award: Cooperative Agreement
Awardee: University of South Carolina
College of Pharmacy
Columbia, SC 29208
Project Officer: Sherry A. Terrell, Ph.D.
Division of Reimbursement and Economic Studies

Description: The researchers analyzed drug utilization, charges, and expenditures of Pennsylvania's elderly participating in the Pennsylvania Medicaid program as well as those enrolled in the Pharmaceutical Assistance Contract for the Elderly, two mutually exclusive programs. Using drug claim data for 1987-88 from the two programs, researchers:

- Determined what percentage of the elderly population will reach a predefined deductible.
- Examined prescription use and expenditures once the deductible was met.
- Studied the demographic relationships of the elderly population on prescription utilization and expenditures.
- Estimated the elderly's prescription usage and expenditures by therapeutic categories.

Status: The final report entitled "Utilization of Pharmaceuticals by the Elderly Receiving Drug Benefits Under State-Sponsored Programs" is available from the National Technical Information Service, accession number PB91-153353.

Description and Analysis of State Medicaid Drug Benefits

Project No.: 99-C-98489/9
Period: August 1990—July 1992
Funding: $ 147,705
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: M. Beth Benedict, Dr. P.H.
Division of Program Studies

Description: The overall goals of this project are to summarize existing knowledge on the economic and quality of care effects of alternative cost-containment methodologies utilized in the Medicaid program (e.g., drug formularies, drug utilization reviews, pricing determination mechanisms, and patient cost sharing); to define high-priority information needs in these areas; and to propose research methodologies and topics to provide needed information on the impact of specific policies.

Status: This project is in the analytic stage.

An Analysis of the Impact of Prescription Drug Coverage for Aged Medicare Beneficiaries

Project No.: 17-C-99392/3
Period: August 1989—August 1992
Funding: $ 889,741
Award: Cooperative Agreement
Awardee: Gerontology Center
College of Health and Human Development
The Pennsylvania State University
210 Henderson Building South
University Park, PA 16802
Project Officer: Steven L. Hass, Phar.D.
Division of Beneficiary Studies

Description: The purpose of the cooperative agreement is to conduct four coordinated studies of prescription drug use among the elderly, using data from the Pennsylvania Department on Aging's Pharmaceutical Assistance Contract for the Elderly (PACE) data base linked with Medicare Parts A and B claims data and eligibility and death information. The studies include longitudinal analysis of PACE cohorts, demand

characteristics of established insureds, prescription drug use in the last year of life, and drug-risk analysis.

Status: All of the analyses are under way; linkage with the Medicare Parts A and B data is in progress. Risk analysis of H_2 blocker criteria developed by the University of Maryland under cooperative agreement number 17-C-99406 is being conducted. The four other criteria sets, when completed, will be programmed. A paper entitled "Depramic Aspects of Drug Use in an Elderly Population" has been prepared. Initial analyses of drug use in the last year of life have been conducted. Volume 1 of the final report, "An Analysis of Determinants and Consequences of Prescription Drug Coverage for Pennsylvania Elderly," has been received.

Analyses of Patterns of Prescription and Over-the-Counter Drug Use among the Elderly: Collaborative and Site-Specific Descriptive and Multivariate Analyses of Data Collected by the Established Populations for Epidemiologic Studies of the Elderly Contracts

Project No.: 1 Y03 AG-9-0130
Period: June 1990—June 1991
Funding: $ 300,000
Award: Interagency Transfer
Awardee: National Institutes of Health
National Institute of Aging
Bethesda, MD 20892
Project Officer: Steven L. Hass, Phar.D.
Division of Beneficiary Studies

Description: This project will supplement the National Institute of Aging's analysis of prescription drug and over-the-counter drug data that have been collected by The University of Iowa and Duke, Harvard, and Yale Universities, the four contractors included in the Established Populations for the Epidemiologic Studies of the Elderly.

Status: The contractors have or have nearly completed each of the projects that were sponsored by this interagency agreement. The University of Iowa projects deal with self-reported adverse drug reactions among community-dwelling elderly and the persistence of drug use over several years among the elderly. Duke's projects involve differences between black and white persons in prescription and over-the-counter drug use and concomitants of analgesic drug use among the elderly. The Yale project involves the epidemiology of severe adverse drug reactions among the elderly. The Harvard studies describe the patterns of psychoactive drug use in the elderly and model the influence of medications on fractures in the elderly.

Design of Interventions to Reduce Drug-Related Adverse Events among Community-Resident, Elderly Medicaid and Medicare Patients

Project No.: 99-C-99169/5
Period: August 1990—July 1991
Funding: $ 59,692
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Ruth B. Pickard, Ph.D.
Division of Health Systems and Special Studies

Description: For this study, researchers reviewed the existing literature to identify interventions that offer substantial promise for achieving cost-effective reductions in the costs associated with adverse drug events (ADEs) among elderly persons residing in the community. The resulting report will provide some historical background on government regulation of drugs, a definition of ADEs, a discussion of the benefits of reducing ADEs, and an assessment of the factors associated with cost-effective interventions. It will examine, in detail, selected factors associated with ADEs, particularly the risks of polypharmacy and the use of high-risk drugs. The report will conclude by presenting promising strategies for reducing ADEs, including regulatory changes, educational efforts directed at both providers and patients, and payment incentives.

Status: The final report for this study was received in late August 1991 and is currently under review.

An Assessment of Private Sector Prescription Drug Utilization Review Programs

Project No.: 99-C-99169/5
Period: September 1989—November 1990
Funding: $ 100,726
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Ruth B. Pickard, Ph.D.
Division of Health Systems and Special Studies

Description: The purpose of this study was to identify and classify alternate approaches to drug utilization review (DUR) in private sector health insurance plans (including health maintenance organizations) and to evaluate the effectiveness of these programs. Researchers evaluated the outcomes, process, and structure of existing DUR programs in order to identify and describe innovative, cost effective, and replicable approaches to DUR that apply to the elderly. Examined outcomes include maximization of benefit from drug therapy, minimization of risk from drug incompatibilities or inappropriate use of drugs, and minimization of cost of drug therapy regimes.

Status: A telephone survey was conducted of 16 firms and site visits made to 7 considered to be leading DUR programs. All of the programs depend heavily on data generated by prescription drug claims processing systems. Both retrospective and concurrent review programs were analyzed. Either process was found to be inexpensive, with those interventions designed to change prescriber practice being the most expensive aspect. Most interventions were targeted at dispensing practices.

Only a limited amount of formal evaluation of the benefits and cost effectiveness of DUR was found to occur among the studied programs. A typology of five levels of review activity was developed to classify programs according to the focus and intensity of their efforts. Various cost functions were also estimated. All five program levels were found to be cost effective. Clinical benefits were less easy to document. Overall, use of a prospective system was recommended as offering the greatest potential for improvement in the quality of drug therapy while reducing costs. A final report entitled "Drug Utilization Review in the Private Sector" was received and is available from the National Technical Information Service, accession number PB91-172320.

Model for Developing Methodological Strategies for Outpatient Drug Use Review under the Medicare Catastrophic Coverage Act of 1988

Project No.: 17-C-99406/3
Period: August 1989—February 1992
Funding: $ 411,000
Award: Cooperative Agreement
Awardee: Center on Drugs and Public Policy
Graduate School, Baltimore
The University of Maryland
20 North Pine Street
Baltimore, MD 21201
Project Officer: Steven L. Hass, Phar.D.
Division of Beneficiary Studies

Description: The purpose of this cooperative agreement is to design a model for the development of explicit systematic methodological strategies to conduct outpatient drug use reviews.

Status: Five panels of experts have been convened and have drafted drug use review criteria for H_2 blockers, benzodiazapines, nonsteroidal anti-inflammatory drugs, antidepressants and antipsychotics, and digoxin/ace inhibitors/calcium channel blockers. The project was extended to February 1992. Prior to completion of the project, the criteria that have been developed will be broadened to enable their application to all age groups. The yield of these criteria will then be established by screening Maryland Medicaid prescription drug claims data.

Research Issues in the Medicare Outpatient Prescription Drug Program

Project No.: HCFA-88-1113
Period: August 1988—December 1989
Funding: $ 24,526
Award: Contract
Contractor: Center on Drugs and Public Policy
Graduate School, Baltimore
The University of Maryland
20 North Pine Street
Baltimore, MD 21201
Project Officer: Feather Ann Davis, Ph.D.
Division of Program Studies

Description: The purpose of this contract was to identify major research issues in the areas of prescription drug utilization and pharmacoepidemiology; prescription drug expenditures, pricing, and financing issues; and therapeutic drug use review.

Status: The contractor submitted a final report entitled "Research Issues in the Medicare Outpatient Prescription Drug Program" that summarizes the relevant literature, presents the recommended major research priorities, and specifies data elements necessary for analyses. Table shells for routine reports have been specified. The report is available from the National Technical Information Service, accession number PB91-130047.

Impact of Home Intravenous Drug Benefits on Beneficiary Utilization of Services

Project No.: 17-C-99457/4
Period: August 1989—August 1991
Funding: $ 300,000
Award: Cooperative Agreement
Awardee: University of South Carolina
College of Pharmacy
Columbia, SC 29208
Project Officer: Steven L. Hass, Phar.D.
Division of Beneficiary Studies

Description: The purpose of this project is to study home intravenous (IV) drug use in North Carolina and Florida. Home infusion therapy drugs will be identified, and North Carolina and Florida home IV drug providers will be surveyed to identify the current volume, composition, and source of payment. Provider sites will be visited and patient charts will be reviewed in order to abstract diagnoses, diagnosis-related groups, and patient outcomes.

Status: Generation of data regarding patterns of home IV infusion drug usage has been completed. Site visits for a small number of the approximately 1,000 patient chart abstractions remain to be completed. An advisory panel to assist in development of a paper on the future of the home IV infusion market was convened. The completion of the paper as well as the project's final report are anticipated by the end of 1991.

Estimating the Impact of the Medicare Catastrophic Coverage Act on the Elderly's Prescription Drug Use and Expenditures and Medicare Program Costs

Project No.: 17-C-99423/3
Period: August 1989—April 1992
Funding: $ 167,831
Award: Cooperative Agreement
Awardee: The People-To-People
Health Foundation, Inc.
Two Wisconsin Circle, Suite 500
Chevy Chase, MD 20815
Project Officer: J. Daniel Babish
Division of Beneficiary Studies

Mandate: Medicare Catastrophic Coverage Act of 1988 (Public Law 100-360)

Description: This project was designed to forecast the impact of the Medicare Catastrophic Coverage Act on prescription drug expenditures and Medicare program outlays. It was also designed to assess the impact of insurance coverage on prescription drug expenditures; simulate the impact of alternative coinsurance rates; assess out-of-pocket expenditures by income level; and examine the effect of an overall deductible, which takes into account all Medicare expenditures, on out-of-pocket expenses and financing costs. Data from the 1987 National Medical Expenditure Survey are being used as the basis of the forecasts. Estimates are being adjusted by including correction factors for systematic under- or over-reporting of drug expenditures from an independently funded prescription drug validation survey.

Status: All activities except for assessing the impact of insurance coverage on the use of prescription drugs and examining the effect of an overall deductible have been completed. The project has resulted in two publications, "Understanding the cost of a catastrophic drug benefit," 9(3):88-100 and "Using survey data to estimate prescription drug costs," 9(3):146-156, both published in the Fall 1990 issue of *Health Affairs*. The project has been awarded a 12-month no-cost extension in order to incorporate delayed data from the National Medical Expenditure Survey into the analysis of the remaining tasks.

Other Studies

Impact of Medicare Catastrophic Coverage Act on Spending and Utilization

Project No.: 17-C-99395/1
Period: August 1989—March 1992
Funding: $ 1,596,230
Award: Cooperative Agreement
Awardee: Center for Health Economics Research
300 Fifth Avenue, 6th Floor
Waltham, MA 02154
Project Officer: J. Daniel Babish
Division of Beneficiary Studies
Mandate: Medicare Catastrophic Coverage Act of 1988 (Public Law 100-360)

Description: This project is designed to study changes in Medicare spending and utilization per enrollee over time as catastrophic benefits are phased in. Issues to be studied include:

- Changes in the level and distribution of total Medicare spending for beneficiaries.
- Variations in spending and utilization for beneficiaries across geographic areas.
- Out-of-pocket liability per enrollee over time.
- Profiles of the actual users of catastrophic benefits.
- Treatment of high-cost illnesses over time.
- Beneficiaries in their last year of life.

An 11-State data base of all Medicare claims and eligibility information for the years 1987-92 is being constructed. The States to be studied are Alabama, Arizona, Connecticut, Georgia, Kansas, New Jersey, Oklahoma, Oregon, Pennsylvania, Washington, and Wisconsin.

Status: A report detailing variations in spending, utilization, and outcome for three conditions—chronic obstructive pulmonary disease, acute myocardial infarction, and inguinal hernia repair—was received in May 1991. In the coming year, activities will be limited to acquisition, processing, and creation of standardized files of Common Working File claims for the multistate data base.

Medicare Catastrophic Coverage Act Evaluation: Impacts on Industry

Project No.: 500-89-0064
Period: September 1989—September 1992
Funding: $ 993,199
Award: Contract
Contractor: The Urban Institute
Health Policy Center
2100 M Street, NW.
Washington, DC 20037
Project Officer: Feather Ann Davis, Ph.D.
Division of Program Studies

Description: The purpose of the contract is to perform a series of research projects all related to the analysis of the benefit changes introduced by the Medicare Catastrophic Coverage Act of 1988 (Public Law 100-360). Categories affected by these benefit changes include hospitals, nursing homes, and home health agencies.

Status: Work on the nursing home and home health analyses is in progress. Work on the hospital impacts analysis awaits data from the American Hospital Association.

Medicare Catastrophic Coverage Act Evaluation: Beneficiary and Program Impacts

Project No.: 500-89-0063
Period: September 1989—September 1994
Funding: $ 2,187,621
Award: Contract
Contractor: Abt Associates, Inc.
55 Wheeler Street
Cambridge, MA 02138-1168
Project Officer: Feather Ann Davis, Ph.D.
Division of Program Studies
Mandate: Medicare Catastrophic Coverage Act of 1988 (Public Law 100-360)

Description: The purpose of the contract is to perform a series of research projects all related to the analysis of

the benefit changes introduced by the Medicare Catastrophic Coverage Act (MCCA) of 1988. Issues to be examined include the effects of the Medicare Part A changes instituted during 1989 and then revoked by Congress, effective 1990; and the effects of the Medicaid expansions, which were not revoked, on children and pregnant women, on dually entitled aged persons, and on community-based spouses of institutionalized Medicaid recipients.

Status: Work on the contract was suspended until November 1990 pending the revision of the contract commensurate with the recision by Congress of the Medicare aspects of the MCCA benefit. Work is under way on several of the Medicare and Medicaid analyses.

Wisconsin Welfare Reform Demonstration

Project No.: 11-C-99154/5
Period: October 1987—September 1992
Award: Cooperative Agreement
Awardee: Wisconsin Department of Health and Social Services
P.O. Box 7850
Madison, WI 53702
Project Officers: Bonnie M. Edington and Debbie C. Van Hoven
Division of Health Systems and Special Studies

Description: Major welfare reform legislation, the Family Support Act (Public Law 100-485), became law in October 1988. This law embodies many of the components of the current welfare reform demonstrations. Under the law, a Medicaid extension of up to 12 months would be given to people working their way off welfare as of April 1990. The first 6 months of this extension would be given regardless of income; the remaining 6 months would be contingent upon earnings below 185 percent of the Federal poverty level (FPL).

Status: Wisconsin implemented its Medicaid extension waiver in February 1989. This demonstration has waivers from the Health Care Financing Administration (HCFA) and the Family Support Administration permitting:

- A "learnfare" requirement that teenage recipients of Aid to Families with Dependent Children (AFDC) be in school.
- A requirement that parents whose youngest child is over 3 months of age register for work or training.
- Major changes in the disregard of earnings, with less being disregarded in the initial 4 months of work and more in the subsequent 8 months.
- A Medicaid extension of 12 months for recipients who lose AFDC eligibility because of earnings, regardless of income increases during the extension period.

During the third year of the welfare reform demonstration, HCFA approved waivers permitting the State to expand Medicaid eligibility for pregnant women and for children under 2 years of age with family incomes up to 155 percent of the FPL under the Healthy Start Program. The costs of services are supported through savings generated from the welfare reform demonstration. As of April 1990, Wisconsin implemented its welfare reform demonstration statewide and received waivers to give the full 12-month Medicaid extension to all recipients who work their way off welfare, regardless of earnings. The State has submitted a request to amend its current waivers to further expand eligibility under the Healthy Start Program. The amended waiver would include children from 2 to 6 years of age in families with incomes up to 155 percent of the FPL. This request awaits approval.

New Jersey Welfare Reform: Realizing Economic Achievement (REACH)

Project No.: 18-C-99156/2
Period: October 1987—September 1992
Award: Cooperative Agreement
Awardee: New Jersey Department of Human Services
222 South Warren Street
Trenton, NJ 08625
Project Officer: Bonnie M. Edington
Division of Health Systems and Special Studies

Description: Major welfare reform legislation, the Family Support Act (Public Law 100-485), became law in October 1988. This law embodies many of the components of the current welfare reform demonstrations. Under the law, a Medicaid extension up to 12 months would be given to people working their way off welfare as of April 1990. The first 6 months of this extension would be given regardless of income; the remaining 6 months would be contingent upon earnings below 185 percent of the Federal poverty level. This demonstration has waivers from the Health Care Financing Administration (HCFA) and the Family Support Administration. Under this project, recipients of Aid to Families with Dependent Children whose youngest child is over the age of 2 years are required to participate in employment-related activities. Additional day care services are provided. A Medicaid extension of 12 months, regardless of their earnings, is provided to recipients who work their way off welfare.

Status: In October 1987, the 12-month Medicaid extension was implemented statewide with the months in excess of the current law funded totally by the State, pending Federal savings from other demonstration components. Other components were phased into various counties throughout the first 2 years of the demonstration. Federal savings from other agencies' demonstration components have been accrued, permitting HCFA waivers to continue giving the full 12-month Medicaid extension regardless of earnings.

Texas Welfare Reform: Toward Independence

Project No.: 11-C-99620/6
Period: July 1989—June 1992
Award: Cooperative Agreement

Awardee: Texas Department of Human Services
P.O. Box 2960
Austin, TX 78769
Project Officer: Bonnie M. Edington
Division of Health Systems and Special Studies

Description: Major welfare reform legislation, the Family Support Act (Public Law 100-485), became law in October 1988. This law embodies many of the components of the current welfare reform demonstrations. Under the law, a Medicaid extension of up to 12 months was given to people who worked their way off welfare as of April 1990. The first 6 months of this extension were given regardless of income; the remaining 6 months were contingent upon earnings below 185 percent of the Federal poverty level. This demonstration had waivers from the Health Care Financing Administration and the Family Support Administration. The demonstration provided for a 12-month extension of child care benefits and a Medicaid extension of 6 to 12 months for people who worked their way off welfare.

Status: With waivers, Texas implemented the extension in the Family Support Act 9 months early. Waivers ended in April 1990; however, recipients continue to be tracked by the Family Support Administration for evaluation purposes.

Washington State Welfare Reform: Family Independence Program

Project No.: 11-C-99582/0
Period: July 1988—June 1993
Award: Cooperative Agreement
Awardee: Washington State Department of Social and Health Services
Mail Stop OB-44
Olympia, WA 98504
Project Officer: Bonnie M. Edington
Division of Health Systems and Special Studies
Mandate: Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)

Description: Major welfare reform legislation, the Family Support Act (Public Law 100-485), became law in October 1988. This law embodies many of the components of the current welfare reform demonstrations. Under the law, a Medicaid extension up to 12 months would be given to people working their way off welfare as of April 1990. The first 6 months of this extension would be given regardless of income; the remaining 6 months would be contingent upon earnings below 185 percent of the Federal poverty level. This demonstration has waivers from the Health Care Financing Administration (HCFA), the Family Support Administration, and the U.S. Department of Agriculture (food stamps). In the experimental areas of the State, recipients of Aid to Families with Dependent Children receive cash equivalent to the value of food stamps and as an incentive to become employed, are given larger welfare benefits if they accept work-related training; are permitted to keep larger proportions of their earnings if they work; and are granted a 12-month Medicaid extension when they work their way off welfare, regardless of earnings.

Status: The State has HCFA waivers to continue giving the full 12-month Medicaid extension regardless of earnings.

Providing Technical Assistance to the Advisory Council on Social Security

Project No.: 99-C-99168/3
Period: August 1989—September 1991
Funding: $ 306,669
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Gerald F. Riley
Division of Beneficiary Studies

Description: In June 1989, the Secretary of Health and Human Services established a 13-member Advisory Council on Social Security. The Secretary has asked the Council to review:

- The long-range financial status of the Social Security program.
- The relationship of the Social Security trust funds to the Federal budget.
- The role of Social Security in U.S. retirement income policy.
- The impact of long-term care on the Medicare program.
- The adequacy and long-term capability of Medicare and Medicaid to finance the health and long-term care needs of the U.S. population.

The charter requires the Council to report to the Secretary and Congress by January 1, 1991. The Council has appointed an executive director who has assembled a small technical staff. Given the broad mandate, a limited timeframe, and a relatively small staff, the Council has sought assistance from the Health Care Financing Administration and Project HOPE to supplement the work of the staff. Project HOPE is assisting the Council in preparing for meetings and hearings, preparing background analyses and developing an impact analysis model, drafting Council background papers, and drafting interim and final reports of the Council.

Status: Project HOPE has prepared several briefing books and background materials for Council members. The Council's mandate has been extended through September 1991. Project HOPE will continue to assist the Council and will help prepare the final report, which is expected in fall 1991.

Evaluation of Employer-Sponsored Retiree Health Insurance

Project No.: 18-C-99181/5
Period: June 1988—February 1990
Funding: $ 187,919
Award: Cooperative Agreement
Awardee: University of Illinois at Chicago
P.O. Box 4348
Chicago, IL 60680
Project Officer: Gerald F. Riley
Division of Beneficiary Studies

Description: The project used data from the Employee Benefits Survey (1981-87) of the Bureau of Labor Statistics and from the Survey of Income and Program Participation (1984) of the U.S. Bureau of the Census and performed the following tasks:

- Described the extent of retiree health insurance coverage, including how coverage varies across segments of the population and how it has changed in recent years. Described the content of such coverage (e.g., services covered and cost-sharing provisions).
- Used econometric models to determine how medium and large firms decided to offer coverage and the characteristics of that coverage.
- Determined in what ways employee retiree benefits and medigap policies exceed Medicare coverage among the aged.
- Determined the number of aged in the United States who currently have had various types of supplemental insurance and combinations of such insurance.
- Determined the prevalence and causes of benefit termination among retirees.
- Assessed the implications of these findings on Medicare policy and on the regulation of employer-sponsored retiree health coverage.

Status: This project has been completed. A final report entitled "An Analysis of Employer-Sponsored Retiree Health Insurance" has been accepted and is available from the National Technical Information Service, accession number PB91-151779. An article was published from the project:

- Morrissey, M.A., Jensen, G.A., and Henderlite, S.E.: Employer-sponsored health insurance for retired Americans. *Health Affairs* 9(1):57-73, Spring 1990.

Pricing and Coverage Decisions for New and Existing Technologies

Project No.: 99-C-99168/3
Period: August 1988—July 1991
Funding: $ 71,877
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Sherry A. Terrell, Ph.D.
Division of Reimbursement and Economic Studies

Description: The purpose of this project was to develop a set of methodologies to accurately price new and existing technologies that have been approved for coverage under Medicare Part A and Part B.

Status: This project has been completed. Working papers were developed on technology issues in Medicare coverage and reimbursement and on methodological options and selection criteria that might be used to determine equitable payments for new technologies. A list of newer technologies and a bibliography on technology issues were prepared. Several methodologies developed in the first phase of the project were used to examine two new technologies. The final report entitled "Pricing and Coverage Decisions for New and Existing Technologies" will be submitted to the National Technical Information Service.

An Analysis of Medicare Expenditures for Ambulance Services

Project No.: 99-C-99168/3
Period: August 1989—July 1991
Funding: $ 173,711
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Herbert A. Silverman, Ph.D.
Division of Program Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: This project was funded to produce data for a Report to Congress as mandated by Public Law 101-239. The project is designed to analyze spending for ambulance services under Medicare. Both the nature and composition of spending for ambulance services and the amount of ambulance services used by beneficiaries with different characteristics will be examined. An attempt will be made to measure the difference between Medicare payments for basic ambulance transportation and the payments that would have been made had other transportation been used. Differences between urban and rural patterns in the use of and expenditures for ambulance services under Medicare will also be addressed, as will differences between Medicare and Medicaid in coverage and expenditures for ambulance services.

Status: Operating and cost data were collected from samples of ambulance companies in California, Massachusetts, Michigan, and Texas. A survey of Medicaid coverage of and expenditures for ambulance services in California, Georgia, Iowa, Massachusetts, Michigan, New Mexico, New York, and Texas was carried out. Data from claims submitted to Medicare for ambulance services were analyzed. A first draft of the report was submitted to the Health Care Financing Administration (HCFA) by Project HOPE in February 1991. HCFA requested additional analyses of the data. A supplemental award of $45,877 was made to complete the project. A completed report is expected in late 1991. Based on the findings, policy recommendations will be developed for transmission in a Report to Congress. It is

expected that the Report to Congress will be transmitted in mid-1992.

Analysis of Adverse Drug Reaction Coding on the Hospital Discharge Records of the Medicare Elderly

Funding: Intramural
Project Director: Steven L. Hass, Phar.D.
Division of Beneficiary Studies

Description: The purpose of this project was to investigate the efficacy of using hospital discharge records of elderly Medicare beneficiaries in adverse drug reaction (ADR) studies. Longitudinal trends in the use of external cause-of-injury codes (E-Codes) and diagnostic codes that indicate ADRs under the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM) coding system are being studied. The demographics of the subpopulation for which such a coding is made will be reported.

Status: Preliminary results indicate a nearly constant level of diagnostic-coded ADRs from 1983 through 1988. However, the level of E-Coded ADR reports has undergone a more than threefold increase. In total, the ICD-9-CM and E-Code ADR codings appear on 2.5 percent of the hospital discharge records of elderly Medicare beneficiaries. The project has been completed and presentation of the study results will be made in November 1991 at the American Public Health Association's annual meeting.

Study of Inappropriate Use of Medications by Medicare Beneficiaries

Project No.: 99-C-99169/5
Period: October 1988—April 1989
Funding: $ 23,279
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Dennis M. Nugent
Division of Long-Term Care Experimentation

Description: Previous research suggests that overutilization of prescription drugs by the elderly is common. There is also a high incidence of adverse drug reactions and interactions in this population. Various physiologic and pathologic changes which can affect drug disposition occur as a result of aging. Because the elderly consume more medications per capita than any other age group, assessing the appropriateness of their drug use is especially important. The purpose of this study was to review and summarize the literature on inappropriate use of medications by elderly Medicare beneficiaries.

Status: Although nearly 300 relevant articles and book chapters were identified and researched, the existing literature did not provide conclusive evidence regarding the extent of inappropriate use. The determination of what constitutes appropriateness was subjective with many different operational definitions. This lack of consistency and uniformity was a major limitation of the published literature. Although acknowledging that inappropriate medication use may be common in elderly Medicare beneficiaries, the existing literature is inconclusive about the rate of misuse. The final report entitled "Inappropriate Medication Use by Elderly Medicare Recipients," which will be sent to the National Technical Information Service, recommends developing improved criteria for judging the appropriateness of medication use and then applying these criteria to a population-based sample of elderly Medicare beneficiaries.

Factors Associated with Hospitalizations for Active Tuberculosis

Funding: Intramural
Project Director: Joan L. Warren, Ph.D.
Division of Beneficiary Studies

Description: Elderly patients account for a disproportionate number of active tuberculosis cases. Tuberculosis is an illness that can be treated in the community and should not require hospitalization. This project is a collaborative effort with the Centers for Disease Control (CDC) to identify factors associated with hospital admissions for tuberculosis among the elderly. The analysis includes regional variation in rates of hospitalization for tuberculosis as well as patients' sociodemographic characteristics and comorbidities.

Status: The Health Care Financing Administration and the CDC are working together to combine information collected by each agency.

Trends in Pneumonia and Influenza Hospitalizations among the Medicare Elderly

Funding: Intramural
Project Director: A. Marshall McBean, M.D.
Division of Beneficiary Studies

Description: Hospitalization rates for all pneumonia and influenza (P&I) cases, and for different types of pneumonia will be analyzed using the Health Care Financing Administration's Medicare provider analysis and review files for 1984 through 1989. Monthly variations and trends during the 5-year period will be described, as will associated comorbidities.

Status: Data were presented for the 5-year period for all pneumonias and for different types of influenza at the 40th Epidemic Intelligence Service Conference at the Centers for Disease Control by Dr. Enrico Melson. The overall P&I hospitalization rates increased by 14.9 percent to 26.03 discharges per 1,000 enrollees during the 5-year period. The increase for black beneficiaries was 24.9 percent; it was 14.4 percent for white beneficiaries. Hospitalization rates increased in all age groups, and the increase was greatest in those 85 years of age or older (17.6 percent). The peak period of hospitalization occurred during the winter influenza season for all the different types of pneumonia analyzed.

Work is continuing on assessing the impact of different categories of comorbidities.

Use of Medicare Services by Disabled Enrollees under 65 Years of Age

Funding: Intramural
Project Director: Gerald F. Riley
Division of Beneficiary Studies

Description: More research has been devoted to the Medicare aged population than to the population of disabled enrollees under 65 years of age. Yet, disabled enrollees account for approximately 10 percent of Medicare enrollment, and Medicare expenditures for them have been rising faster than for aged enrollees. To increase knowledge of the Medicare disabled population, patterns of health services used by the disabled were analyzed. In particular, this population was analyzed by type of disability award (i.e., disabled worker, adult disabled in childhood, or disabled spouse). Also, the aged (those 65 years of age or over) Medicare population who were formerly disabled Medicare beneficiaries were studied. In another study, Medicare utilization data have been linked to Social Security Administration data on a cohort of disabled workers who first became entitled to disability benefits in 1972. Their Medicare use from 1974 through 1981 was studied to explore the relation of disability characteristics to Medicare use over time. The specific objectives of the project were to:

- Describe the levels and patterns of reimbursable Medicare costs over time at the individual level for a cohort of disability beneficiaries from 1974 through 1981.
- Identify the characteristics of disabled beneficiaries that are associated with various reimbursement levels and patterns.
- Describe the individual cost and utilization components that make up the overall reimbursement amounts.

Status: The following articles have been published:

- Bye, B., Dykacz, J., Hennessey, J., and Riley, G.: Medicare costs prior to retirement for disabled-worker beneficiaries. *Social Security Bulletin.* Vol. 54, No. 4. Pub. No. SSA 13-11700. Office of Research and Statistics, Social Security Administration. Washington. U.S. Government Printing Office, Apr. 1991.
- Bye, B., and Riley, G.: Eliminating the Medicare waiting period for Social Security disabled-worker beneficiaries. *Social Security Bulletin.* Vol. 52, No. 5. Pub. No. SSA 13-11700. Office of Research and Statistics, Social Security Administration. Washington. U.S. Government Printing Office, May 1989.
- Bye, B., Riley, G., and Lubitz, J.: Medicare utilization by disabled-worker beneficiaries: A longitudinal analysis. *Social Security Bulletin.* Vol. 50, No. 12. Pub. No. SSA 13-11700. Office of Research and Statistics, Social Security Administration. Washington. U.S. Government Printing Office, Dec. 1987.
- Lubitz, J., and Pine, P.: Health care use by Medicare's disabled enrollees. *Health Care Financing Review* 7(4):19-31. HCFA Pub. No. 03223. Office of Research and Demonstrations, Health Care Financing Administration. Washington. U.S. Government Printing Office, Summer 1986.

The project has been completed.

Studies of Medicare Use Before Death

Funding: Intramural
Project Directors: Gerald F. Riley and
James D. Lubitz
Division of Beneficiary Studies

Description: These studies examine the use of Medicare services in the last years of life. This information is important for several reasons, one being that a large percentage of Medicare expenditures occurs during the last year of an enrollee's life. Also relevant is the increased interest in hospice care as an alternative form of care for the terminally ill.

Status: Findings from the first study indicate that:

- Twenty-eight percent of Medicare expenditures are for persons in their last year of life.
- These persons receive more than six times the reimbursements of other enrollees.
- The relative share of Medicare expenditures in behalf of enrollees in their last year of life changed little from 1967 to 1979.

A number of papers have been published on this topic and among them are Lubitz, J., and Prihoda, R.: Use and costs of Medicare services in the last 2 years of life; *Health Care Financing Review.* 5(3):117-131, Spring 1984. A second study analyzes Medicare use by cause of death. The study uses cause of death data from the National Center for Health Statistics linked to Medicare data. Medicare expenditures in the last year of life are examined by cause of death (e.g., cancer and heart attack), type of service, age, and sex. The results indicate considerable variation in Medicare reimbursements in the last year of life by cause of death. The results of the study were published in Riley, G., Lubitz, J., Prihoda, R., and Rabey, E.: The use and costs of Medicare services by cause of death. *Inquiry* 24(3):233-244, Fall 1987. Another paper features an analysis of trends in the use of Medicare services, by cause of death, for up to 6 years before death. "Longitudinal patterns of Medicare use by cause of death" was published in the *Health Care Financing Review* 11(2):1-12, Winter 1989. Some of the data published in the 1984 article, "Use and costs of Medicare services in the last 2 years of life," are being updated to determine if there has been any change in the relative shares of Medicare expenditures accounted for by decedents and survivors. Preliminary results indicate there has been little change. Analysis is continuing.

Medicare Cohort Studies

Funding: Intramural
Project Director: Alma B. McMillan
Division of Beneficiary Studies

Description: The 5-percent Continuous Medicare History Sample file has been aggregated for 16 years (1974-89). The file makes it possible to study patterns and trends in the use and costs of services, as well as outcomes of care, for cohorts of Medicare enrollees beginning in 1974. The objective of this project is to follow groups of aged enrollees for a period of 16 years (1974-89). Several studies will be designed to examine questions similar to the following:

- What are the utilization histories for people enrolled in the program after 16 years?
- Do the same people have a high volume of services year after year?
- What is the natural history of enrollees after events such as fracture of the femur?
- What combination of illnesses (e.g., cancer and heart disease) do people have during a 16-year period?

Answers to these and similar questions will be an invaluable addition of new information on the aged Medicare population.

Status: The focus of the first study is on three cohorts of Medicare enrollees—65, 75, and 85 years of age in 1974. The Bureau of Data Management and Strategy, Health Care Financing Administration, has produced data on the number of enrollees in each of the cohort groups and their mortality. Data on hospitalizations and average per capita reimbursement amounts have also been produced and are being analyzed. Preliminary findings show that there were 1.3 million Medicare enrollees at age 65 in 1974, 914,000 at age 75, and 386,000 at age 85 in 1974. The proportions of these cohorts surviving through 1989 were 53 percent of those 65 years of age; 22 percent of those 75 years; and about 3 percent of those 85 years of age. For those enrollees in the cohorts of ages 65 and 75 in 1974 who died during the period 1974 through 1989, about 4 percent of each age group had no reimbursed services during the 16-year period; for the 85-year-old cohort, about 6 percent had no reimbursed services during the period. Among decedents, per capita payments for the youngest cohort were 1.2 and 1.4 times greater than those for the age 75 and age 85 cohorts, respectively. A draft report has been prepared and is being reviewed. A final report is expected to be completed by the end of 1991.

Post-Hospitalization Outcomes Studies

Project No.: 500-90-0046
Period: September 1990—March 1995
September 1990—September 1991 (Design Phase)
July 1992—July 1995 (Implementation Phase)
Funding: $ 1,282,667
$ 152,286 (Design Phase)
$ 1,130,381 (Implementation Phase)
Award: Contract
Contractor: School of Public Health
University of Minnesota
420 Delaware Street, SE., Box 197
Minneapolis, MN 55455
Project Officer: Joan L. Warren, Ph.D.
Division of Beneficiary Studies

Description: This project is designed to assess the outcomes of patients who have been hospitalized for specific conditions or procedures. The studies will follow the patients after hospitalization to obtain detailed information about their health and functional status and health care utilization. This information will provide a more complete profile of each episode of illness. The goals of this project are to:

- Develop knowledge about the natural history following hospitalization for major health conditions.
- Determine the factors that are related to patients' outcomes following discharge.
- Develop indicators of patients who are at high risk for complications following hospitalization.
- Identify ways of preventing complications.

Status: Data collection instruments and a detailed analysis plan have been developed for four conditions: total hip replacement, cholecystectomy, pneumonia, and large bowel procedures. Field testing of the instruments for the first two, total hip replacement and cholecystectomy, will be carried out in fiscal years (FYs) 1992 and 1993, and full implementation of the study will start in FY 1993.

Health Care Prevention and Access

Prevention

Prevention of Falls in the Elderly

Project No.: 95-C-98578/9
Period: September 1984—December 1989
Funding: $ 695,894
Award: Cooperative Agreement
Awardee: Kaiser Foundation Research Institute
Health Services Research Center
4610 Southeast Belmont Street
Portland, OR 97215
Project Officer: Margaret F. Coopey
Division of Long-Term Care Experimentation

Description: In September 1984, a cooperative agreement was awarded to the Kaiser Foundation Research Institute to test the cost effectiveness of a comprehensive environmental and behavioral program. This study was designed to prevent falls among persons 65 years of age or over and to estimate the net financial benefits or costs to a health maintenance organization and the Medicare program of a given level of falls

prevention for a defined target population. The secondary objectives for the project were to increase understanding of the epidemiology of falls and associated injuries and to develop an improved method of predicting the risk of falls in an elderly population. Funding support for this demonstration was supplemented by the National Institute on Aging, the Robert Wood Johnson Foundation, and Kaiser Foundation Hospitals, Inc. This is a randomized study of 3,182 members (65 years of age or over) of the Kaiser Permanente Medical Care program in Portland, Oregon.

Status: All participants received an initial home audit to assess their environmental and physical risk factors for falls. They were then randomly placed into one of two groups—an intervention group or an assessment-only control group. The intervention group received a special falls prevention program that included a self-management educational curriculum and the installation of safety equipment and minor home renovations to correct identified safety hazards. Data on the incidence of falls and associated morbidities and fall-related medical care utilization were collected for a period of 2 years on both the control and intervention groups through self-reports by the study participants. In addition, a retrospective audit of the participants' medical records was completed to validate the incidence of falls requiring medical care and to determine the associated medical care costs. The followup period to assess the incidence of falls ended December 1987. The cooperative agreement was extended until December 1989 to allow for completion of the program's evaluation. The final report has been received and is under review.

The Economy and Efficacy of Medicare Reimbursement for Preventive Services

Project No.: 95-C-98516/4
Period: September 1985—December 1991
Funding: $ 1,800,000
Award: Cooperative Agreement
Awardee: University of North Carolina
Department of Social and Administrative Medicine
300 Bynam Hall, 008A
Chapel Hill, NC 21514
Project Officer: Sherrie L. Fried
Division of Health Systems and Special Studies

Description: The University of North Carolina at Chapel Hill has implemented the preventive services demonstration in 10 medical practices. Approximately 2,400 beneficiaries were randomly allocated to 1 of 4 groups—clinical screening only, health promotion only, clinical screening plus health promotion, and the usual care control. Clinical screening and health promotion services were reimbursed separately at annual rates of $59.94 for screening and $44.33 for health promotion services. The evaluation is being conducted by the Department of Social and Administrative Medicine and the Health Services Research Center of the University of North Carolina at Chapel Hill.

Status: In October 1986, the project began offering clinical screening, health promotion, and followup services to appropriate participants. In June 1988, the project reached its target population of 2,400 clients. The 4-year operational phase, in which preventive services were offered, ended September 30, 1990. The telephone followup health assessment interviews were completed. Work on the analysis of the cost and utilization data will continue, and a final report will be prepared. Because of the difficulty in obtaining cost and utilization data, the University of North Carolina requested a 3-month no-cost extension from September 30, 1991, to December 31, 1991.

Medicare Prevention Demonstration under the Consolidated Omnibus Budget Reconciliation Act: The Johns Hopkins University

Project No.: 95-C-99162/3
Period: May 1988—April 1994
Funding: $ 1,914,284
Award: Cooperative Agreement
Awardee: The Johns Hopkins University
School of Hygiene and Public Health
624 North Broadway
Baltimore, MD 21205
Project Officer: Sherrie L. Fried
Division of Health Systems and Special Studies
Mandates: Consolidated Omnibus Budget Reconciliation Act of 1985 (Public Law 99-272)
Omnibus Budget Reconciliation Act of 1990 (Public Law 101-508)

Description: The Johns Hopkins University provided preventive services to a representative population of Medicare beneficiaries residing in the eastern third of Baltimore City and in small areas of Baltimore County. After a baseline interview covering areas of health status, risk, and sociodemographics, the population was randomly assigned to either an intervention or control group. Preventive services screening and intervention were performed by the beneficiary's own physician. The University is conducting a comprehensive evaluation to assess the cost effectiveness of providing preventive services.

Status: The demonstration began offering preventive services in May 1989, and services ended in April 1991. Sixty percent of eligible beneficiaries received the first-round preventive visit, and 57.6 percent of those eligible received the first counseling visit. More than 38 percent of eligible beneficiaries received the second-round preventive visit, and 50.8 percent of those eligible received the second counseling visit. Approximately 2,120 followup telephone interviews have been completed. Data collection for the evaluation is continuing. Section 4161(a)(1) of the Omnibus Budget

Reconciliation Act (OBRA) of 1990 extends the demonstration and increases the $5.9 million limit for administrative and evaluation costs to $10.5 million to allow the projects to follow participants and measure the long-term outcomes of the preventive services. The legislation requires an interim Report to Congress (RTC) in April 1993 and a final RTC in April 1995. In order to prepare the final RTC and comply with OBRA 1990, the demonstration was extended for an additional 2-year period, through April 30, 1994.

Medicare Prevention Demonstration under the Consolidated Omnibus Budget Reconciliation Act: San Diego State University

Project No.: 95-C-99160/9
Period: May 1988—April 1994
Funding: $ 1,726,500
Award: Cooperative Agreement
Awardee: San Diego State University Foundation
Graduate School of Public Health
San Diego State University
San Diego, CA 92182-1900
Project Officer: Debbie C. Van Hoven
Division of Health Systems and Special Studies
Mandates: Consolidated Omnibus Budget Reconciliation Act of 1985
(Public Law 99-272)
Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: Medicare beneficiaries who are currently enrolled in the Secure Horizons health maintenance organization (HMO) were targeted for preventive services. The sample size was originally expected to be 2,400; however, the HMO requested and received approval to reduce its sample size to 1,800, from which one-half were randomly assigned to the treatment group and one-half to the control group. The San Diego School of Public Health will conduct a comprehensive evaluation to assess the cost effectiveness of providing preventive services.

Status: Preventive services under the demonstration were initiated in May 1989 and ended in April 1991. The second year of feedback phone counseling to experimental participants to encourage maintenance of behaviors was completed May 31, 1991. Eighty-nine percent were successfully contacted and counseled during the first phone call, and 83 percent during the second phone call. Year 4 health assessments began in June 1991 and were scheduled to end on August 30, 1991. Data collection for the evaluation is continuing. Section 4161(a)(1) of the Omnibus Budget Reconciliation Act (OBRA) of 1990 extends the demonstration and increases the $5.9 million limit for administrative and evaluation costs to $10.5 million to allow the projects to follow participants and measure the long-term outcomes of the preventive services. The legislation requires an interim Report to Congress (RTC) in April 1993 and a final RTC in April 1995. In order to prepare the final RTC and comply with OBRA 1990, the demonstration was extended for an additional 2-year period, through April 30, 1994.

Medicare Prevention Demonstration under the Consolidated Omnibus Budget Reconciliation Act: University of California, Los Angeles

Project No.: 95-C-99165/9
Period: May 1988—April 1994
Funding: $ 1,846,200
Award: Cooperative Agreement
Awardee: University of California
School of Public Health
405 Hilgard Avenue
Los Angeles, CA 90024-1406
Project Officer: Debbie C. Van Hoven
Division of Health Systems and Special Studies
Mandates: Consolidated Omnibus Budget Reconciliation Act of 1985
(Public Law 99-272)
Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: Medicare beneficiaries who are current patients of the University of California, Los Angeles (UCLA) university-based clinic were targeted for preventive and dental referral services. Approximately 1,930 participants were randomly assigned to treatment or control groups. UCLA will conduct a comprehensive evaluation to assess the cost effectiveness of providing such preventive services.

Status: Preventive services under the demonstration were initiated in May 1989 and ended in April 1991. Three rounds of preventive services were delivered to participants in the treatment group. Both treatment and control group members participated in the final Health Day in March 1991. Eighty-five percent of project participants completed the 1991 Geriatric Health Risk Appraisal. Data collection for the evaluation is continuing. Section 4161(a)(1) of the Omnibus Budget Reconciliation Act (OBRA) of 1990 extends the demonstration and increases the $5.9 million limit for administrative and evaluation costs to $10.5 million to allow the projects to follow participants and measure the long-term outcomes of the preventive services. The legislation requires an interim Report to Congress (RTC) in April 1993 and a final RTC in April 1995. In order to prepare the final RTC and comply with OBRA 1990, the demonstration was extended for an additional 2-year period, through April 30, 1994.

Medicare Prevention Demonstration under the Consolidated Omnibus Budget Reconciliation Act: University of Pittsburgh

Project No.: 95-C-99159/4
Period: May 1988—April 1994
Funding: $ 1,915,046

Award: Cooperative Agreement
Awardee: University of Pittsburgh
Department of Epidemiology
130 Desoto Street
Pittsburgh, PA 15261
Project Officer: Sherrie L. Fried
Division of Health Systems and Special Studies
Mandates: Consolidated Omnibus Budget Reconciliation Act of 1985
(Public Law 99-272)
Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: The demonstration provided preventive services to Medicare beneficiaries residing in rural counties in western Pennsylvania. More than 3,880 demonstration participants received health-risk appraisals and were randomly assigned to two treatment groups and one control group. The treatment groups included beneficiaries receiving services at clinics and physician offices. The University of Pittsburgh is conducting a comprehensive evaluation to assess the cost effectiveness of providing preventive services.

Status: The demonstration began offering preventive services in May 1989, and services ended in April 1991. Almost 92 percent of experimental participants received initial screenings, and 78 percent of experimental participants received rescreenings. Approximately 1,340 telephone followup interviews were completed. The greatest number of interventions were in the areas of influenza immunization, nutritional counseling for hypercholesterolemia, and weight reduction counseling for hypertensives, diabetics, and hyperlipidemics. Data collection for the evaluation is continuing. Section 4161(a)(1) of the Omnibus Budget Reconciliation Act (OBRA) of 1990 extends the demonstration and increases the $5.9 million limit for administrative and evaluation costs to $10.5 million to allow the projects to follow participants and measure the long-term outcomes of the preventive services. The legislation requires an interim Report to Congress (RTC) in April 1993 and a final RTC in April 1995. In order to prepare the final RTC and comply with OBRA 1990, the demonstration was extended for an additional 2-year period, through April 30, 1994.

Medicare Prevention Demonstration under the Consolidated Omnibus Budget Reconciliation Act: University of Washington

Project No.: 95-C-99161/4
Period: May 1988—April 1994
Funding: $ 1,896,422
Award: Cooperative Agreement
Awardee: University of Washington
School of Public Health and Community Medicine
F346 Health Sciences Building SC37
Seattle, WA 98195
Project Officer: Sherrie L. Fried
Division of Health Systems and Special Studies
Mandates: Consolidated Omnibus Budget Reconciliation Act of 1985
(Public Law 99-272)
Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: The University of Washington implemented a randomized design to assess the cost savings and changes in health-related quality of life associated with providing a preventive-service package (annual health risk assessment, individual health promotion, and group counseling) for Medicare beneficiaries enrolled in Group Health Cooperative (GHC) of Puget Sound. The project will take place in Seattle, Washington, at four GHC medical centers.

Status: GHC began offering preventive services in May 1989, and services ended in April 1991. Eighty-nine percent of experimental participants completed health promotion and disease prevention visits. The participant followup survey began in May. The baseline provider survey was revised and administered in May. Data collection for the evaluation is continuing. Section 4161(a)(1) of the Omnibus Budget Reconciliation Act (OBRA) of 1990 extends the demonstration and increases the $5.9 million limit for administrative and evaluation costs to $10.5 million to allow the projects to follow participants and measure the long-term outcomes of the preventive services. The legislation requires an interim Report to Congress (RTC) in April 1993 and a final RTC in April 1995. In order to prepare the final RTC and comply with OBRA 1990, the demonstration was extended for an additional 2-year period, through April 30, 1994.

Cross-Cutting Evaluation of Medicare Prevention Demonstrations under the Consolidated Omnibus Budget Reconciliation Act

Project No.: 500-87-0030
Period: October 1987—June 1992
Funding: $ 299,051
Award: Technical Support: Evaluation of Demonstrations
(See page 82)
Contractor: Abt Associates, Inc.
55 Wheeler Street
Cambridge, MA 02138-1168
Project Officer: Bonnie M. Edington
Division of Health Systems and Special Studies
Mandates: Consolidated Omnibus Budget Reconciliation Act of 1985
(Public Law 99-272)
Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: Abt Associates is conducting a cross-cutting evaluation of the five Medicare prevention demonstrations, mandated by the Consolidated Omnibus Budget Reconciliation Act (COBRA) of 1985, which test the effectiveness of providing disease prevention and health promotion services to Medicare beneficiaries. Congress stipulated that the preventive health service package to be made available was to include health screenings, health risk appraisals, immunizations, and counseling and instruction in: diet and nutrition, reduction of stress, exercise programs, sleep regulation, injury prevention, prevention of substance abuse and mental disorders, self-care (including medication use), and smoking cessation.

Status: The contract for a cross-cutting evaluation was signed September 30, 1987, and in May 1988, cooperative agreements were awarded to five schools of public health to implement the demonstration. Services under waivers began in May 1989 and ended in April 1991. The first Report to Congress was submitted in April 1989. The COBRA 1985 legislation mandated 4-year demonstrations; the Omnibus Budget Reconciliation Act (OBRA) of 1990 extended them to 5 years. The OBRA 1990 extension allowed for an additional year of followup for purposes of evaluation and added two Reports to Congress, due April 1993 and April 1995.

Infectious Diseases and Immunization: The Illinois Medicare Influenza Vaccine Demonstration

Project No.:	71-C-99618/5
Period:	March 1990—February 1993
Funding:	$ 334,679
Award:	Cooperative Agreement
Awardee:	Illinois Department of Public Health 535 West Jefferson Street Springfield, IL 62761
Project Officer:	Edward T. Hutton, Ph.D. Division of Health Systems and Special Studies
Mandate:	Omnibus Budget Reconciliation Act of 1987 (Public Law 100-203)

Description: The purpose of this project is to conduct a study to determine the cost effectiveness of furnishing an influenza vaccination as a Medicare-covered benefit. This is 1 of the 10 Medicare influenza vaccine demonstration sites, and it will be operational for 2 of the 4 demonstration influenza seasons (i.e., 1990-91 and 1991-92). This demonstration is being implemented by the Illinois State Health Department Immunization Program through the appropriate local health departments. The intervention area is a group of 34 counties in the central (i.e., Springfield and Peoria) part of the State, and the comparison area is 36 counties in the southern part of the State. There is a Part B population of 238,113 in the intervention area, and there are 1,300 eligible providers practicing in the area. Bulk vaccine and provider reimbursement for its administration is available only in the intervention area. The existing influenza surveillance system was expanded to accommodate the demonstration.

Status: This site was funded in March 1990 and will be operational for the last two demonstration influenza seasons. The baseline telephone survey immunization rate for the intervention area was 34 percent, and the demonstration carrier processed more than 73,000 claims during the 1990-91 influenza season. As a result, the 1990-91 telephone survey immunization rate rose to 50 percent. In preparation for the final influenza season, 90,000 doses of influenza vaccine have been distributed to providers that have agreed to participate in the demonstration. It is anticipated that this site will process more than 80,000 claims during the 1991-92 influenza season.

Implementation of the Cost-Effectiveness Study of Medicare Coverage for Influenza Vaccine

Project No.:	500-87-0030
Period:	July 1988—September 1992
Funding:	$ 1,042,881
Award:	Technical Support: Implementation of Demonstrations (See page 82)
Contractor:	Abt Associates, Inc. 55 Wheeler Street Cambridge, MA 02138-1168
Project Officer:	Edward T. Hutton, Ph.D. Division of Health Systems and Special Studies
Mandate:	Omnibus Budget Reconciliation Act of 1987 (Public Law 100-203)

Description: The purpose of this project is to conduct a study to determine the cost effectiveness of furnishing an influenza vaccination as a Medicare-covered benefit. To implement this study, the Health Care Financing Administration (HCFA) is working closely with the Centers for Disease Control (CDC), which has funded the following demonstration projects with intervention and comparison areas in nine sites: The University of Rochester (New York) Medical Center; Michigan Department of Public Health; San Antonio (Texas) Metropolitan Health District; North Carolina Department of Human Resources; Massachusetts Department of Public Health; Oklahoma State Department of Health; Maricopa County, Arizona Department of Health Services; Ohio Department of Health; and Allegheny County, Pennsylvania Health Department. HCFA funded a tenth site in Illinois in March 1990. In addition, statewide projects were initiated in Indiana, Louisiana, Tennessee, and Virginia during the 1989-90 influenza season; and statewide projects were started in Arkansas, Colorado, Idaho, Mississippi, Montana, and Wisconsin during the 1990-91 influenza season. In the statewide sites, the carrier treats influenza vaccine as a covered Medicare benefit and reimburses providers for the cost of vaccine and its administration. The contractor, Abt Associates, will assist the sites in implementing the demonstration and in preparing a descriptive evaluation

of the demonstration. Abt is ensuring that appropriate data collection activities take place so that it will be able to conduct the analysis on cost effectiveness.

Status: As of September 30, 1991, there were 20 operational sites, including 10 demonstration sites and 10 statewide sites. These 20 sites processed more than 2 million claims during the 1990-91 influenza season. For the final year of the demonstration (i.e., the 1991-92 influenza season), the same 20 sites will be operational. The CDC has purchased and distributed 1.3 million doses of influenza vaccine for use by the 10 demonstration sites during the last demonstration influenza season. It is anticipated that almost 2.5 million claims will be processed by the 20 sites during this period.

Evaluation of the Cost Effectiveness of Medicare Coverage of Influenza Vaccine

Project No.: 500-89-0049
Period: October 1989—September 1993
Funding: $ 3,062,471
Award: Contract
Contractor: Abt Associates, Inc.
55 Wheeler Street
Cambridge, MA 02138-1168
Project Officer: Edward T. Hutton, Ph.D.
Division of Health Systems and Special Studies
Mandate: Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)

Description: The objective of this project is to evaluate the cost effectiveness of furnishing influenza vaccinations to Medicare Part B beneficiaries as a Medicare-covered benefit. The demonstration that includes intervention and comparison areas in 10 sites and 10 statewide vaccine projects is being evaluated. In the statewide sites, an influenza vaccination is being treated as a covered benefit; and the local carrier is paying providers for the cost of the vaccine and its administration. For the evaluation, the contractor will measure the cost of the immunization benefit relative to the reduction in pneumonia and influenza hospitalization admissions (attributable to vaccine use) during the influenza season. The vaccine's effectiveness in preventing pneumonia and influenza hospital admissions will also be estimated through results from case control studies included in the demonstration.

Status: During the first year of the contract, the evaluation contractor contributed to the development of a Report to Congress (RTC) that presented the results of the first 2 years of the demonstration. During the second year of the contract, an evaluation plan was developed, submitted to the Health Care Financing Administration (HCFA), and reviewed by the national panel of experts assisting HCFA and the Centers for Disease Control in conducting the demonstration and evaluation. The Vaccination Rate Surveys for the 1989-90 and the 1990-91 seasons were completed. The vaccination rates reported by the contractor in the 1989-90 influenza season indicate a 5-point spread in rates between intervention and comparison areas. The overall average intervention and comparison areas were 43 percent and 38 percent, respectively. For the prior season, the average rates were 37 percent in the intervention area and 35 percent in comparison areas. During the third year of the contract, the contractor will be conducting the final Vaccination Rate Survey and preparing the summary report on the cost-effectiveness analysis that will contribute to the RTC which will be submitted by April 1993.

Effectiveness of Inactivated Influenza Vaccine in the Elderly

Project No.: 71-C-99616/5
Period: December 1989—November 1992
Funding: $ 618,496
Award: Cooperative Agreement
Awardee: University of Michigan
School of Public Health
475 East Jefferson, Room 1310
Ann Arbor, MI 48109-1248
Project Officer: Edward T. Hutton, Ph.D.
Division of Health Systems and Special Studies
Mandate: Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203) (Funded as part of the Demonstration of the Cost Effectiveness of Influenza Vaccine)

Description: The study, which is expected to continue through the 1991-92 influenza season, consists of a nonresidential, community component and a residential, nursing home component. The nonresidential component is a case control study of the influenza vaccine's effectiveness in preventing hospitalization for pneumonia and influenza during the influenza season. The target sample size for the nonresidential component is an annual recruitment of at least 468 cases and 2 controls per case. Confounding factors including age, sex, and health risks will be considered. The residential component is a case-control study at the patient level and a descriptive analysis of differences in characteristics at the facility level. The outcome variables are the occurrence of an influenza-like illness during the time that the influenza virus is shown to be circulating; medical complications (e.g., pneumonia) following influenza or an influenza-like illness; hospitalization for pneumonia and/or influenza; total hospitalizations within 2 weeks following influenza or an influenza-like illness; and the duration of hospitalization.

Status: Data collection for the 1989-90 influenza season has been completed. Data collection for the 1990-91 season is ongoing. In the nonresidential study, 22 of the 23 eligible hospitals are participating. For the first year of study, the vaccine was well matched to the influenza A strain in circulation and the vaccine was found to be at least 45 percent effective in preventing hospitalization

for pneumonia and influenza. In the nursing home study, the vaccine was found to be preventive of influenza-like illness outbreaks in larger nursing homes (100 beds or more) when vaccination rates were 80 percent or higher. Factors influencing vaccination rates were examined. Vaccination rates varied inversely with nursing home bed size and tended to be lower when written consent was required prior to vaccination. The final report for the analysis of the 1989-90 season is expected in fall 1991.

The Utilization and Evaluation (Effectiveness and Cost Effectiveness) of Pneumococcal Vaccine in the Medicare Program

Funding: Intramural
Project Director: A. Marshall McBean, M.D.
Division of Beneficiary Studies

Description: The Immunization Practice Advisory Committee of the Public Health Service recommends the pneumococcal vaccine for all people 65 years of age or over, and Medicare has reimbursed for this preventive service since July 1981. The national goal is to immunize 60 percent of Medicare beneficiaries with the pneumococcal vaccine by 1990. The current immunization level is estimated to be approximately 10 percent. In 1985, Medicare reimbursed for the administration of almost 460,000 doses of vaccine and there were approximately 1,750,000 new Medicare enrollees. Although the vaccine is recommended by the Committee, the effectiveness of the vaccine was questioned as a result of one randomization control trial published in 1986 and one unpublished study, both done on Veterans Administration beneficiaries. Researchers will describe vaccine utilization as well as the effectiveness and cost effectiveness of the vaccine for Medicare beneficiaries. The project has four major aspects:

- Part 1 will describe the utilization of pneumococcal vaccine for Medicare beneficiaries in 1985-88 using the Part B Medicare Annual Data procedure and beneficiary files and the Health Insurance Skeleton Eligibility Write-off file. The characteristics of immunized and unimmunized beneficiaries will be examined, as well as those of the providers of the vaccine, to identify ways of increasing coverage.
- Part 2 will be a case-control study of the effectiveness and the cost effectiveness of pneumococcal vaccine using all Medicare provider analysis and review file reported cases of pneumococcal bacteremia and pneumococcal pneumonia in the United States as the outcome.
- Part 3 will evaluate the effectiveness and cost effectiveness of a pneumococcal vaccine program administered by county health departments in collaboration with the Baltimore County Health Department and the Johns Hopkins Center on Aging.
- Part 4 will evaluate the effectiveness of the statewide pneumococcal vaccine program in Hawaii in reducing morbidity and hospital costs following pneumococcal polysaccharide vaccine.

Status: Major project activities include:

- Part 1. A paper describing the use of pneumococcal vaccine among elderly Medicare beneficiaries for the years 1986-88 has been published in the Archives of Internal Medicine.
- Part 2. No further progress.
- Part 3. In county-sponsored clinics in Anne Arundel, Baltimore, Carroll, Harford, and Howard counties, Maryland, more than 10,000 Medicare beneficiaries received either pneumococcal or influenza vaccine in preparation for the 1987-88 and 1988-89 influenza seasons. Approximately 3,000 have received pneumococcal vaccine. The entire population is being followed for hospitalizations resulting from various categories of pneumonia.
- Part 4. Hawaii carried out its pneumococcal vaccine immunization program on the island of Oahu and the neighboring islands from September 1, 1988 through February 1989 and administered more than 15,000 doses of vaccine on Oahu. A cohort study based on the data from the Hawaii immunization campaign and that from the Medicare Part B carrier data from 1982-88 has been started. The date of immunization for those who received the vaccine will be known, and the incidence of hospitalization for pneumococcal and other illnesses in this group will be compared with that for unimmunized beneficiaries. A study to validate the immunization information obtained from the carrier will be implemented as soon as all clearances are obtained. These clearances are expected by the end of 1991.

Preventive Health Care for Medicaid Children: Relative Factors and Costs

Project No.: 18-C-98897/5
Period: October 1986—September 1990
Funding: $ 197,000
Award: Cooperative Agreement
Awardee: American Academy of Pediatrics
144 Northwest Point Boulevard
P.O. Box 927
Elk Grove Village, IL 60007
Project Officer: Marilyn B. Hirsch, Ph.D.
Division of Program Studies

Description: The purpose of this project is to study preventive care received by children under the Medicaid program. In addition to Health Care Financing Administration (HCFA) data, data from the early and periodic screening, diagnosis, and treatment (EPSDT) program will be used. The study will use two sample groups of children enrolled in the California Medicaid program:

- Children continuously enrolled in Medicaid from 1981 through 1984.
- Children continuously enrolled in Medicaid, at a minimum, during 1981.

Differences in quantities and types of preventive services by client, organizational, and policy variables will be identified. For all children continually enrolled in Medicaid from 1981 through 1984, the impact of

preventive services received during the period 1981-83 on utilization, costs of care, and some quality measures in 1984 will be studied. The sources of Medicaid data are HCFA's Medicaid Tape-to-Tape project and the State EPSDT system.

Status: Analysis of the data has been completed. A draft final report has been received, and the final report is expected in late fall 1991. An article based on this analysis has been published: Yudkowsky, B.K., and Fleming, G.V.: Preventive health care for Medicaid children. *Health Care Financing Review.* 1990 Annual Supplement:89-96. HCFA Pub. No. 03311. Office of Research and Demonstrations, Health Care Financing Administration. Washington. U.S. Government Printing Office, Dec. 1990.

Health Care Services for Children under Medicaid

Project No.: 18-P-98011/3
Period: August 1981—August 1991
Funding: $ 504,311
Award: Grant
Grantee: The Johns Hopkins University
School of Medicine
Department of Pediatrics
720 Rutland Avenue
Baltimore, MD 21205
Project Officer: Benson L. Dutton
Division of Reimbursement and Economic Studies

Description: This is a comparative study of health care services for children, using billing claims and eligibility data files from the State of Maryland. Information on the cost and effectiveness of services for children eligible for the Medicaid early and periodic screening, diagnosis, and treatment program will be sought. Data on the costs for and utilization of services by children using private practitioners, hospital clinics, emergency rooms, and various combinations of delivery systems will serve as the basis of comparison for this analysis.

Status: Using the data files for the Johns Hopkins Hospital Title V Children and Youth Clinic, use of services by Medicaid and self-pay patients has been compared. Within an organized program, utilization differences were small. The implications of these findings were explored, particularly in light of other studies. Services for children with asthma were studied in the Children and Youth Project and in the middle-class population of the Columbia, Maryland, Medical Plan. Services were far more numerous, and thus more costly, for the children and youth Medicaid population than for those of the Columbia medical plan. The monitoring of Medicaid services, including diagnosis-specific studies for other chronic and acute problems, with cost containment as the goal, will be tested against the large State Medicaid file. The final report entitled "Health Care Services for Children Under Medicaid" was received in August 1991 and is available from the National Technical Information Service, accession number PB91-242289.

Evaluation of the Omnibus Budget Reconciliation Act of 1987 Medicare Payment for Therapeutic Shoes for Individuals with Severe Diabetic Foot Disease Demonstration

Project No.: 500-87-0028
Period: June 1988—June 1993
Funding: $ 1,579,187
Award: Technical Support:
Evaluation of Demonstrations
(See page 82)
Contractor: Mathematica Policy Research, Inc.
P.O. Box 2393
Princeton, NJ 08543-2393
Project Officer: Sherrie L. Fried
Division of Health Systems and Special Studies
Mandates: Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)
Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: The demonstration was to begin on October 1, 1988, and last 24 months. The first Report to Congress (RTC) was submitted on October 15, 1990. The Omnibus Budget Reconciliation Act of 1987 provided that if coverage under Medicare is cost effective, therapeutic shoes would become a covered service effective November 1, 1990. The results of the first RTC were inconclusive, and the demonstration is continuing for an additional 24 months until October 31, 1992. The final RTC is due by April 1, 1993. Unless the report shows that therapeutic shoes are *not* cost effective, they will automatically become a covered service.

Status: The project was implemented in August 1989 in the States of California, Florida, and New York. The demonstration involved a randomized design with an expectation of 13,700 treatment group members and an equal number of control group members. Because the participation rates were lower than anticipated, the number needed to determine the cost effectiveness of therapeutic shoes has been lowered to 3,000 beneficiaries. Participation in the demonstration, to date, has been disappointingly low. Moreover, because early enrollment rates have been lower than expected, the Health Care Financing Administration implemented an intensive outreach activity toward increasing beneficiary and physician participation. Although increasing the rate slightly, the publicity campaign did not have the desired effect of increasing participation greatly. As of September 30, 1991, 3,363 beneficiaries, 4,172 providers, and 433 suppliers of therapeutic shoes are participating in the demonstration. A telephone survey of the treatment and control group members is being developed.

Access

Analyzing Durations of Spells without Health Insurance: How Many Types of People Have Chronic versus Short-Term Spells?

Project No.: 99-C-98526/1
Period: August 1990—July 1991
Funding: $ 102,705
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Gerald F. Riley
Division of Beneficiary Studies

Description: This project will analyze the durations of spells without health insurance and the determinants of chronic as well as short uninsured spells. This is a topic of increasingly critical importance as the Nation begins to assess various policy alternatives for providing financial access to the uninsured population. This project will expand and increase the sophistication of research that The Urban Institute has conducted using the 1984 Panel of the Survey of Income and Program Participation (SIPP). The SIPP is a multipanel, longitudinal survey conducted by the U.S. Bureau of the Census.

Status: A draft final report is expected in fall 1991.

Relationships between Household Income, Health Insurance Status, and Access to Medical Care

Project No.: 99-C-98489/9
Period: September 1990—July 1992
Funding: $ 66,647
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Jeffrey A. Buck, Ph.D.
Division of Program Studies

Description: Using data from the National Health Interview Survey (NHIS), RAND will examine the relationships between household income and measures of access to health care among persons with and without health insurance.

Status: The project design has been finalized, and initial analysis of 1983 NHIS data has been completed.

Medicaid Extension of Eligibility to Certain Low-Income Families Not Otherwise Qualified to Receive Medicaid Benefits: A Managed-Care Demonstration Project for Low-Income Adults

Project No.: 11-C-99656/1
Period: September 1991—September 1995
Funding: $ 179,610
Award: Cooperative Agreement
Awardee: Maine Department of Human Services
Bureau of Medical Services
State House
Station No. 1
Augusta, ME 64333
Project Officer: James P. Hadley
Division of Health Systems and Special Studies
Mandate: Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: Section 4745 of the Omnibus Budget Reconciliation Act of 1990 requires a 3-year demonstration to test the effect of eliminating the categorical eligibility requirement and raising the financial eligibility limits to 150 percent of the Federal poverty level (FPL) on low-income individuals' access to, and cost of, health care. Maine is one of three States that are serving as a site for this demonstration. The 3-year operational period will be preceded by a 9-month planning phase and followed by a 3-month close-out phase. The Maine project is a statewide project that builds on the existing Maine Health Program (MHP), which has been operational since October 1990, and extends Medicaid coverage to adults at or below 95 percent of the FPL. The demonstration will differ from the current MHP in two ways: It will expand eligibility for adults (age 20 or over) from 95 percent of the FPL to 100 percent of the FPL, and for those enrolled in the demonstration, it will make primary care case management mandatory, except for those enrolled through employer-sponsored coverage. Enrollees whose employers offer them coverage will be required to accept it if Maine finds it cost effective to "buy in." Projected enrollment is 15,000 during the course of the demonstration.

Status: The award was made September 30, 1991. The demonstration is currently in the preoperational planning phase.

Medicaid Extension of Eligibility to Certain Low-Income Families Not Otherwise Qualified to Receive Medicaid Benefits: South Carolina Health Access Plan

Project No.: 11-C-99653/4
Period: September 1991—June 1995
Funding: $ 187,000
Award: Cooperative Agreement
Awardee: South Carolina State Health and Human Services Finance Commission
P.O. Box 8206
Columbia, Richland, SC 29201-8206
Project Officer: James P. Hadley
Division of Health Systems and Special Studies
Mandate: Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: Section 4745 of the Omnibus Budget Reconciliation Act of 1990 requires a 3-year demonstration to test the effect of eliminating the categorical eligibility requirement and raising the financial eligibility limits to 150 percent of the Federal poverty level (FPL) on low-income individuals' access to, and cost of, health care. South Carolina is one of three States that are serving as a site for this demonstration. The 3-year operational period will be preceded by a 6-month planning phase and followed by a 3-month close-out phase. In Horry and Marion Counties, currently uninsured individuals below 150 percent of the FPL who are employed by small firms that have not offered health insurance coverage to their employees within the past 12 months will be eligible to purchase a package of benefits that are similar to those offered through the State Medicaid program. Employer-employee premiums will be set to equal 27 percent of the projected claims cost (South Carolina's rate of participation in the State's medical assistance program under Title XIX). Employers will pay the entire premium for enrollees at or below 100 percent of the FPL and 75 percent of the premium for enrollees with incomes from 100 to 150 percent of the FPL, with the remainder paid from Title XIX demonstration funds. Each participant will be assigned a primary care physician, who will serve as a gatekeeper with responsibilities for treatment, referrals, and authorization of emergency room, specialist, and hospital use. Projected enrollment is 2,750 during the course of the demonstration.

Status: The award was made September 30, 1991. The demonstration is currently in the preoperational planning phase.

Medicaid Extension of Eligibility to Certain Low-Income Families Not Otherwise Qualified to Receive Medicaid Benefits: Extending Medical Coverage to Certain Low-Income Families

Project No.: 11-C-99657/0
Period: September 1991—September 1995
Funding: $ 113,874
Award: Cooperative Agreement
Awardee: State of Washington
Department of Social and Health Studies
617 8th Avenue, SE.
Olympia, WA 98504
Project Officer: James P. Hadley
Division of Health Systems and Special Studies
Mandate: Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: Section 4745 of the Omnibus Budget Reconciliation Act of 1990 requires a 3-year demonstration to test the effect of eliminating the categorical eligibility requirement and raising the financial eligibility limits to 150 percent of the Federal poverty level (FPL) on low-income individuals' access to, and cost of, health care. Washington is one of three States that are serving as a site for this demonstration. The goal of the program is to provide health benefits to 3,650 individuals out of an eligible population of about 40,190. The 3-year operational period will be preceded by a 9-month planning phase and followed by a 3-month close-out phase. The Washington project, to be mounted in Spokane County, is a variation of the statewide Washington Basic Health Plan (BHP), which currently provides health care coverage for individuals under age 65, whose family incomes are below 200 percent of the FPL, and who are not eligible for Medicaid. The demonstration program will be called "BHP2." The proposal is to convert BHP enrollees whose incomes are below 150 percent of the FPL to BHP2, as well as to seek new enrollees not currently participating in the BHP. The proposed ratio of new enrollees to BHP conversions is 3:1. Both programs utilize preferred provider organizations and health maintenance organizations to provide care. BHP2 differs from BHP primarily in terms of income limits (150 percent of the FPL under BHP2), a more extensive benefit package, and by an attempt to get small employers to participate in offering BHP2.

Status: The award was made September 30, 1991. The demonstration is currently in the preoperational stage.

Analysis of the Health Care Financing System

Project No.: 500-89-0023
Period: May 1989—September 1992
Funding: $ 304,686
Award: Contract
Contractor: Lewin/ICF
1090 Vermont Avenue, NW., Suite 700
Washington, DC 20005
Project Officer: Gerald F. Riley
Division of Beneficiary Studies

Description: The purpose of the study is to address the August 1988 Presidential Directive from the AIDS (acquired immunodeficiency syndrome) Commission to conduct an analysis of the health care financing system. The study focuses on the American public's access to adequate health care under the current system of health care financing. Attention is being paid to private and public sector-oriented strategies for insuring low-income populations. This includes various proposed expansions of the Medicaid program as well as mandated employer benefits. Alternatives for the uninsured and underinsured will be developed. The fiscal impacts of these strategies as well as the utility of the strategies for policymaking will be analyzed.

Status: The final report, "The Health Care Financing System and the Uninsured," was completed on April 4, 1990, and is available from the National Technical Information Service, accession number PB90-227133. The contract was extended through September 1991 to permit modeling of additional options for covering the uninsured; part of this work will be conducted for the Advisory Council on Social Security. The contract was recently extended through September 1992.

Trends in Access to Health Care Services for Selected Segments of the Medicare Population

Funding: Intramural
Project Director: Renee Mentnech
Division of Beneficiary Studies

Description: Trend data on access to health care services will be developed for the years prior to, during, and after implementation of physician payment reform (PPR). The focus will be on vulnerable subgroups of the Medicare population such as persons with low income, persons without supplemental medical insurance, and persons with acute and chronic conditions. Geographic differences will also be examined. This trend data will be derived from the National Health Interview Survey conducted by the National Center for Health Statistics. The years 1984, 1986, and 1989 will be used to develop pre-PPR baseline data.

Status: This project is in the early developmental stage.

Racial Variations in Glaucoma Treatment

Funding: Intramural
Project Director: A. Marshall McBean, M.D.
Division of Beneficiary Studies

Description: This project is examining treatment rates for open angle glaucoma in elderly Medicare beneficiaries throughout the United States from 1986 through 1988. Although a recent survey conducted in Baltimore, Maryland, indicates that the disease occurs four times more frequently in black persons than in white persons, the rate of treatment is only twice as great in black persons.

Status: This project has been completed. Rates of glaucoma surgery were twice as high in black beneficiaries as in white beneficiaries; however, the need for glaucoma surgery measured by glaucoma prevalence in the Baltimore Eye Survey is four times greater in black beneficiaries. A paper has been written that is expected to be published soon. The principal author is Dr. Jonathan Javitt, Center for Sight, Georgetown University, Washington, D.C.

Access to High Technology Health Care Services for Medicare Patients with Heart Disease

Funding: Intramural
Project Director: Renee Mentnech
Division of Beneficiary Studies

Description: Rates of use of high technology services such as coronary artery bypass graft (CABG) surgery and percutaneous transluminal coronary angioplasty (PTCA) are variable across geographic areas and demographic groups. In this study, researchers will identify patients hospitalized for an acute myocardial infarction (AMI) and follow them to analyze which patients receive CABG and/or PTCA procedures after an AMI. Trend data will be developed to examine whether there are changes over time in response to implementation of the physician payment reform legislation.

Status: This project is in the early developmental stage.

Access to Kidney Transplantation: An Examination of the Decision to Transplant

Project No.: 99-C-98489/9
Period: September 1990—September 1991
Funding: $ 112,252
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Paul W. Eggers, Ph.D.
Division of Beneficiary Studies

Description: The purpose of this project was to analyze the effect of the medical and social characteristics of both the organ donor and potential transplant recipient on the probability of receiving a kidney transplant.

Status: RAND conducted a comprehensive examination of the medical and nonmedical reasons for placing or not placing a donated cadaver kidney into a particular individual when that individual was next in line to receive a transplant. Specifically, RAND identified the key factors that determine when an individual will receive a cadaver kidney at kidney transplant centers across the country. Analysis of data from four organ procurement organizations showed that the rate of acceptance and transplant, once a person reaches the top of the waiting list, is 12 percent. There is no difference between black and white persons in this rate of transplantation. The major reasons for not getting a transplant are a positive cross-match (donor not suitable for recipient), 43 percent, and donor preservation problems, 16 percent. A final report is expected in spring 1992.

Access to Kidney Transplant Waiting List

Project No.: 99-C-98489/9
Period: August 1991—July 1992
Funding: $ 135,884
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Paul W. Eggers, Ph.D.
Division of Beneficiary Studies

Description: RAND will assess the rate of referral to transplant waiting list among end stage renal disease (ESRD) beneficiaries. This will be accomplished by linking waiting list data from the United Network for Organ Sharing with the Health Care Financing Administration's ESRD Program Management and Medical Information System data. In addition, RAND will assess racial differences in the length of time from referral to the waiting list until transplantation.

Status: This project is in the early developmental stage.

Maternal and Child Health

Medicaid Extension of Eligibility to Pregnant Women and Children Demonstration: The Florida Medicaid Program and School Enrollment-Based Health Insurance

Project No.: 11-C-99638/4
Period: September 1990—June 1994
Funding: $ 224,989
Award: Cooperative Agreement
Awardee: Florida Department of Health and Rehabilitative Services
1317 Winewood Boulevard
Building 6, Room 271
Tallahassee, FL 32399
Project Officer: Ronald W. Deacon, Ph.D.
Division of Health Services and Special Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: As mandated by Section 6407 of Public Law 101-239, this project will extend Medicaid to children 6 through 18 years of age who are from families with incomes less than 130 percent of the Federal poverty level. Low-cost commercial health insurance will be marketed through the Florida school system by means of a nonprofit corporation (i.e., the Healthy Kids Corporation) established by the State to facilitate the provision of preventive health care services to children and to provide comprehensive coverage to children and their families. The insurance package will have both a high (comprehensive) and a low (preventive and primary care only) option plan. The package will be based on Medicaid reimbursement rates and provider networks consisting primarily of pediatricians and family practitioners who currently contract with Medicaid. The State will contract with an insurer to underwrite the insurance.

Status: This project is in the developmental stage. Upon submission and acceptance of an operational protocol and waiver cost estimate, the demonstration is expected to begin early in 1992.

Medicaid Extension of Eligibility to Previously Ineligible Children Demonstration: A Demonstration to Expand Health Insurance Coverage to Low-Income Persons through Medicaid or Private Insurance

Project No.: 11-C-99640/1
Period: September 1990—June 1994
Funding: $ 10,278,107
Award: Cooperative Agreement
Awardee: Maine Department of Human Services
Bureau of Medical Services
State House
Station No. 1
Augusta, ME 64333
Project Officer: Ruth B. Pickard, Ph.D.
Division of Health Services and Special Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: As mandated by Section 6407 of Public Law 101-239, this demonstration will augment the Maine Health Program (MHP) enacted in 1989. MHP is a statewide program to extend Medicaid-like benefits to adults having incomes up to 95 percent of the Federal poverty level (FPL) and to children below 19 years of age in families with incomes up to 125 percent of the FPL who would otherwise be ineligible for Medicaid benefits. The demonstration will carve out for matching Federal funds that portion of the program pertaining to coverage for children. Where employer-sponsored health insurance is available and determined to be cost effective, the State will provide premium payment and "wrap-around" coverage for Medicaid benefits not included in the employer's benefit package. Where no employer-sponsored coverage is available, the worker's eligible dependent children will receive the regular Medicaid program benefit package. The premium for enrollees in households with incomes up to 100 percent of the FPL will be fully subsidized. A sliding fee schedule will be used for those in families with incomes exceeding 100 percent of the FPL. Enrollees may continue in the program for up to 2 years in transition status if family income exceeds 125 percent of the FPL but remains below 185 percent of the FPL, as long as the family pays an income-based premium.

Status: Although MHP has been operational since October 1990, Federal matching of funds for the child-population carve-out constituting the demonstration is currently awaiting final project approval.

Medicaid Extension of Eligibility to Previously Ineligible Children Demonstration: Michigan Caring Program for Children

Project No.: 11-C-99633/5
Period: September 1990—June 1994
Funding: $ 7,641,660
Award: Cooperative Agreement
Awardee: Michigan Department of Social Services
400 South Pine Street
Lansing, MI 48909
Project Officer: Ruth B. Pickard, Ph.D.
Division of Health Services and Special Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: As mandated by Section 6407 of Public Law 101-239, this program will extend Medicaid eligibility to children 6 through 18 years of age who are from families with incomes up to 185 percent of the Federal poverty level. Approximately 12,400 are expected to be enrolled in the first year. The demonstration is a private and public partnership between the Michigan Medicaid program and Blue Cross and Blue Shield of Michigan. Blue Cross and Blue Shield will administer the plan, generate private contributions from community sources to help pay service costs, and reimburse providers on the basis of the standard Blue Cross and Blue Shield fee schedule. The mainstream benefit package will include most primary and preventive ambulatory care but exclude coverage of inpatient services.

Status: Operational arrangements are well along in the developmental phase but because of fiscal difficulties in the State, a delay in obtaining enabling legislation resulted in a slippage of the planned implementation date to winter 1991.

Evaluation of the Medicaid Expansion Demonstrations

Project No.: 500-87-0030
Period: June 1991—March 1995
Funding: $ 927,357
Award: Technical Support: Design of Demonstrations
(See page 82)
Contractor: Abt Associates, Inc.
55 Wheeler Street
Cambridge, MA 02138-1168
Project Officer: Ruth B. Pickard, Ph.D.
Division of Health Systems and Special Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: For this project, the contractor will design and conduct the evaluation of three demonstrations mandated under Section 6407 of the Omnibus Budget Reconciliation Act of 1989. The contractor will evaluate alternative models for extending health insurance coverage to children under age 20 who lack insurance. The States conducting the demonstrations under the mandate are Florida, Maine, and Michigan. Each State will use a different strategy for providing the new coverage. Florida will test the effectiveness of marketing a school-based affordable insurance package under which services will be delivered through a managed-care network. Maine will conduct a statewide program which features the use of subsidies for the purchase of comparable private, employer-based group coverage, where such insurance is shown to be cost effective. Michigan will test the effectiveness of a public-private partnership between the State and Michigan Blue Cross and Blue Shield, which will feature the use of donated funds to subsidize a mainstream outpatient insurance package. The evaluation will determine the effect of these demonstrations on various outcome and process measures of access to care, private insurance coverage, and cost of care. Methodology to be used will take into account the distinctiveness of the three demonstrations, while incorporating a strategy that will allow for comparisons between programs in terms of performance in penetrating the eligible population. Case studies will be coupled with the analysis of program data to describe the structure and processes of the demonstrations. In addition, primary data will be collected through surveys of both program participants and controls, using a sample frame composed of applications for the school lunch program in each State. Separate analyses of program costs and program effectiveness will be included.

Status: Review of the baseline program arrangements and refinement of the evaluation design are currently under way.

Feasibility Study to Examine the Cost Effectiveness of Medicaid Expansions

Project No.: 99-C-99169/5
Period: August 1990—July 1991
Funding: $ 50,796
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Marilyn B. Hirsch, Ph.D.
Division of Program Studies

Description: The purpose of this project is to examine the feasibility and utility of conducting a cost-effectiveness study of the Medicaid expansions. A literature review will be conducted, interventions will be identified, research hypotheses will be evaluated, and research designs will be explored.

Status: A panel of experts in the fields of maternal and child health, Medicaid, and cost-effectiveness research was convened in May 1991 to discuss issues related to Medicaid expansion research. In general, the panel unanimously found that components of cost-effectiveness research should be undertaken as quickly as possible, but recommended that full cost-effectiveness studies of the expansions be given a lower priority until a more complete foundation is developed. The Health Care Financing Administration will use the results of the meeting to guide future research relating to the effectiveness of the expansions. The project has been completed. A final report entitled "Assessing the Feasibility of a Cost-Effectiveness Analysis of the Medicaid Expansions for Infants, Children, and Pregnant Women" has been received and is available from the National Technical Information Service, accession number PB92-148980.

Extending Medicaid Coverage of Substance Abuse Treatment to Eligible Pregnant Women: Assessment of Issues and Costs

Project No.: 99-C-98526/1
Period: August 1990—September 1992
Funding: $ 79,533

Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Marilyn B. Hirsch, Ph.D.
Division of Program Studies

Description: The purpose of this project is to study Medicaid's coverage of substance abuse treatment programs and to assess the costs of expanding this treatment to pregnant women at risk of delivering a substance-impaired infant. This project will use, primarily, data from surveys that have already been conducted; data extracted from previous studies that have already been conducted; and data from interviews with State officials working in the areas of Medicaid and substance abuse. Cost estimates for selected States will be developed.

Status: Data analyses are in progress.

Evaluation Design of Demonstration for Improving Access to Care for Pregnant Substance Abusers

Project No.: 500-87-0029
Period: July 1991—December 1992
Funding: $ 328,255
Award: Technical Support:
Design of Demonstrations
(See page 82)
Contractor: Lewin/ICF
1090 Vermont Avenue, NW., Suite 700
Washington, DC 20005
Project Officer: Edward T. Hutton, Ph.D.
Division of Health Systems and Special Studies

Description: The contractor will assist the Health Care Financing Administration in designing and implementing the demonstration to improve access to care for pregnant substance abusers. As part of the responsibilities, the contractor will develop the data collection system, test the data collection system, and provide the future independent evaluation contractor with documentation on the system. It is expected that the award for the independent evaluator will be made during September 1992.

Status: This project is in the early developmental phase.

Coordinating Care for Pregnant Substance Abusers Demonstration: Maryland

Project No.: 11-C-06103/3
Period: September 1991—March 1996
Funding: $ 1,232,000
Award: Cooperative Agreement
Awardee: Maryland Department of Health and Mental Hygiene
201 West Preston Street, Room 225
Baltimore, MD 21201
Project Officer: Sherrie L. Fried
Division of Health Systems and Special Studies

Description: For this project, pregnant substance abusers who reside in specific areas in eastern Baltimore City will be targeted. The project is a randomized clinical trial that will demonstrate the costs and effectiveness of two innovative methods of outreach for Medicaid-eligible substance abusers. The first outreach strategy makes use of aggressive clinical case management to link medical and substance abuse service. The second outreach strategy is the substance abuse support group that meets weekly onsite in the Johns Hopkins Hospital Prenatal Care clinic. The Johns Hopkins University will evaluate the demonstration.

Status: The project is in the developmental phase, which will comprise a large portion of the first year. Work has begun on a detailed operational protocol.

Coordinating Care for Pregnant Substance Abusers Demonstration: Massachusetts

Project No.: 11-C-06111/1
Period: September 1991—March 1996
Funding: $ 1,125,000
Award: Cooperative Agreement
Awardee: Massachusetts Department of Public Welfare
180 Tremont Street, 13th Floor
Boston, MA 02111
Project Officer: Debbie C. Van Hoven
Division of Health Systems and Special Studies

Description: The focus of this project is on enhancing current service linkage and delivery efforts in Holyoke and two neighborhoods in Boston. The project draws heavily on a prenatal care initiative referred to as the Perinatal Community Initiatives Program, which includes community outreach and case-finding, comprehensive case management for high-risk women, and linkage with other relevant services. The project will include drug counselors to assist in the identification and assessment of pregnant substance abusers. As part of the project, detoxification provided in a hospital setting will be compared with detoxification provided in a freestanding setting. In addition, costs and utilization of residential and ambulatory treatment options will be monitored.

Status: The project is in the developmental phase, which will comprise a large portion of the first year. Work has begun on a detailed operational protocol and a waiver cost estimate. Waiver approval is necessary before the demonstration can begin offering services.

Coordinating Care for Pregnant Substance Abusers Demonstration: New York

Project No.: 11-C-06115/2
Period: September 1991—March 1996
Funding: $ 1,700,000
Award: Cooperative Agreement

Awardee: New York State Department of Social Services
Division of Medical Assistance
40 North Pearl Street
Albany, NY 12243
Project Officer: Sherrie L. Fried
Division of Health Systems and Special Studies

Description: The project will take place in six sites, three in New York City and three in upstate areas. Approximately 430 eligible women will receive services. As adjuncts to the standard substance abuse treatment services, the following services will be provided: perinatal care, pediatric care, developmental screening, health education, family planning, parenting education, nutritional counseling, child care, vocational assessment, self-esteem building, and transportation. The project will include residential treatment programs.

Status: The project is in the developmental phase, which will comprise a large portion of the first year. Work has begun on a detailed operational protocol and a waiver cost estimate. Waiver approval is necessary before the demonstration can begin offering services.

Coordinating Care for Pregnant Substance Abusers Demonstration: South Carolina

Project No.: 11-C-06112/4
Period: September 1991—March 1996
Funding: $ 887,000
Award: Cooperative Agreement
Awardee: State of South Carolina
State Health and Human Services Finance Commission
P.O. Box 8206
Columbia, SC 29202-8206
Project Officer: Debbie C. Van Hoven
Division of Health Systems and Special Studies

Description: The project will be conducted in the State's Edisto Health District, a poor, both urban and rural, area. The project will incorporate sensitivity and support education for providers in managing the unique problems presented by pregnant substance abusers and will include indepth case management. Other services to be provided include: focused maternal outreach using trained outreach workers and provision of transportation, child care, and other support services. Approximately 330 women and their infants will receive services prenatally and for 12 months postpartum.

Status: The project is in the developmental phase, which will comprise a large portion of the first year. Work has begun on a detailed operational protocol and a waiver cost estimate. Waiver approval is necessary before the demonstration can begin offering services.

Coordinating Care for Pregnant Substance Abusers Demonstration: Washington

Project No.: 11-C-06108/0
Period: September 1991—March 1996
Funding: $ 1,125,000
Award: Cooperative Agreement
Awardee: Department of Social and Health Services
Office of First Steps
Mail Stop OB-45A
Olympia, WA 98504
Project Officer: Debbie C. Van Hoven
Division of Health Systems and Special Studies

Description: This project will be conducted in Yakima County, a largely rural county with the highest teen pregnancy rate in the State. Project staff will travel to various social service and health care agencies in the county when a pregnant woman has been identified who may be in need of treatment for substance abuse. The project will also establish five medical stabilization beds at a residential facility. An enhanced case-management component will be included, and services, e.g., child care, will be arranged. As many as 500 women are expected to participate.

Status: The project is in the developmental phase, which will comprise a large portion of the first year. Work has begun on a detailed operational protocol and a waiver cost estimate. Waiver approval is necessary before the demonstration can begin offering services.

Damaged Children: Implications for the Medicaid System

Project No.: 99-C-98489/9
Period: August 1990—December 1991
Funding: $ 75,000
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Penelope L. Pine
Division of Program Studies

Description: The purpose of this project is to provide the Health Care Financing Administration with an initial assessment of the effect of high-cost infants and children on Medicaid and to test the feasibility of approaching the problem by means of literature review and analysis of existing data bases. For this study, researchers will develop a taxonomy of high-cost conditions, based on a synthesis and assessment of available studies on these conditions, and will perform multivariate analysis of high-cost cases (e.g., human immunodeficiency virus, syphilis, and measles); childhood injuries; iatrogenic events to infants or children; malnourished children (i.e., failure to thrive); and childhood lead poisoning.

Status: This project is in the developmental stage. A literature review on various prenatal and postnatal harms has been completed.

Medicaid Utilization of Prescription Drugs and Health Services among Children from Birth to 5 Years of Age under Aid to Families with Dependent Children: A 3-Year Longitudinal Study

Project No.: HCFA-90-1265
Period: September 1990—August 1991
Funding: $ 24,759
Award: Contract
Contractor: Systems Management Associates
5427 Valkeith
Houston, TX 77096
Project Officer: Feather Ann Davis, Ph.D.
Division of Program Studies

Description: The purpose of this project was to assess the differences of continuous and discontinuous Medicaid status on health service utilization and expenditures and to study selected indicators of health status and quality of care for young children who might be affected by enrollment discontinuities. An important objective for the study is the development of a research methodology to analyze health services utilization for persons who are discontinuously enrolled in Medicaid.

Status: The final report entitled "Medicaid's Utilization of Prescription Drugs and Health Services Among AFDC Children from Birth to Five Years of Age: A Three Year Longitudinal Study of the California 1986 Enrollees" was received and will be submitted to the National Technical Information Service. Expenditure and utilization data are presented by enrollment category—continuously enrolled, lost (dropped out of Medicaid and not reenrolled during the 3-year period), and intermittent (dropped out and reenrolled one or more times during the 3-year period).

Medicaid: Neonatal Intensive Care Unit Costs

Project No.: 99-C-99169/5
Period: August 1990—August 1991
Funding: $ 51,133
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: M. Beth Benedict, Dr. P.H.
Division of Program Studies

Description: Neonatal intensive care is a principal reason for the sharp decline in infant mortality during the past two decades. Researchers developed a paper that examines issues related to collecting data on total neonatal intensive care unit (NICU) costs and Medicaid expenditures for NICUs as a baseline for further work and to carrying out studies related to specific areas of concern for groups of patients for whom Medicaid has a large funding responsibility. These studies included, but were not limited to, appropriateness of the length of stay in NICUs; early discharge with technology; infants born to women who use drugs during pregnancy; infants who test positive for the human immunodeficiency virus; and decisions to begin life support technology.

Status: This project has been completed. The findings of the final report entitled "Medicaid: Neonatal Intensive Care Unit Costs Study" indicated that there is almost no information on national Medicaid expenditures for infants who require neonatal intensive care and the available estimates predate the recent Medicaid expansions. Future studies will require new data collection. The overall impact of the Medicaid expansions on Medicaid expenditures for neonatal intensive care cannot be predicted because the impact will depend on two changes. First, Medicaid expenditures for NICUs will rise as more infants are covered. However, the provision of prenatal care and other health services may reduce the incidence of the conditions that lead to NICU admission. The net effect of these two factors cannot be determined from available data. Furthermore, it is unknown whether shortfalls between Medicaid reimbursements and hospitals' costs of caring for low-birth-weight infants limit the access Medicaid-covered infants have to neonatal intensive care or the quality of the care provided in these units. The report summarized what is known and what is not known with respect to Medicaid policy issues, existing data sources, and suggested research strategies to fill the knowledge gaps.

1988 National Maternal and Infant Health Survey

Period: October 1988—September 1991
Award: Interagency Agreement
Agency: Centers for Disease Control
National Center for Health Statistics
Hyattsville, MD 20782
Project Officer: Marilyn B. Hirsch, Ph.D.
Division of Program Studies

Description: For this survey, women were interviewed who experienced a live birth, an infant death, or a fetal death in 1988. Each woman was asked about her prenatal care and health habits, delivery, other pregnancies, her characteristics and those of the baby's father, family income, and baby's health. With the woman's permission, prenatal care providers and hospitals were contacted for additional information. Intramural research at the Health Care Financing Administration (HCFA), a survey co-sponsor, will focus on factors related to access, adequacy, and quality of prenatal care; adverse birth outcomes; and adverse delivery outcomes for women covered by Medicaid, compared with those in other insurance categories.

Status: HCFA received a data tape with information from the mothers' interviews and vital records. Intramural research has begun.

1990 Longitudinal Followup of Mothers in the 1988 National Maternal and Infant Health Survey

Period: October 1989—September 1991
Award: Interagency Agreement
Agency: Centers for Disease Control
National Center for Health Statistics
Hyattsville, MD 20782

Project Officer: Marilyn B. Hirsch, Ph.D.
Division of Program Studies

Description: For this survey, women are being interviewed who participated in the 1988 National Maternal and Infant Health Survey and who experienced a live birth, and a sample of women are being surveyed who experienced an infant death or a fetal death. Data on the health and morbidity of the children will be collected from the mothers, the children's medical care providers, and any hospitals in which care was delivered to the children.

Status: This survey is in the data collection stage.

Subacute and Long-Term Care

Alternative Payment and Delivery

Evaluation of "Life-Continuum of Care" Residential Centers in the United States

Project No.: 18-C-98672/1
Period: January 1985—September 1989
Funding: $ 832,871
Award: Cooperative Agreement
Awardee: Hebrew Rehabilitation Center for the Aged
1200 Centre Street
Boston, MA 02131
Project Officer: Judith A. Sangl
Division of Long-Term Care Experimentation

Description: The objective of this project was to obtain information about the characteristics of continuum of care residential centers (CCRCs) and their residents and to compare these characteristics with respect to quality of life and health, service costs, and utilization with those of elderly residents living in the community. Data were gathered from 20 CCRCs in Arizona, California, Florida, and Pennsylvania. These sites were stratified according to the type of contract offered (extended versus limited), the age of the facility, and the income levels of those enrolled. Three types of CCRC residents were selected from the sites for the study sample—new admissions (580), existing residents, both short- and long-stay residents (1,640), and residents who died just prior to or during the field data gathering period (660). Quality of life and service utilization data were gathered at two points in time, at baseline and 12 months later. Three types of comparison samples were employed:

- A representative sample of elderly in their own homes or independent apartments (2,422).
- A national sample of elderly living in congregate housing settings (2,350).
- A representative sample of elderly who have died and for whom retrospective data are available for their last year of life (1,500).

Status: The final report is expected in fall 1991.

Design, Implementation, and Evaluation of a Prospective Case-Mix System for Nursing Homes in Massachusetts

Project No.: 11-C-98924/1
Period: August 1986—November 1990
Funding: $ 362,312
Award: Cooperative Agreement
Awardee: Massachusetts Department of Public Welfare
Medical Assistance Division
600 Washington Street
Boston, MA 02116
Project Officer: J. Donald Sherwood
Division of Long-Term Care Experimentation

Description: For this project, researchers designed and implemented a prospective case-mix system for a random sample of nursing homes in Massachusetts. This payment system tested incentives for these nursing homes to admit and treat heavy-care patients while minimizing declines in quality of care. Experimental facilities were compared with facilities that continued to be reimbursed under the current system. Thirty-one homes participated, 17 in the experimental group. The system modifies four of seven components of the nursing home reimbursement system currently used in the State. For demonstration facilities, nursing services payment is case-mix adjusted using "management minutes." Incentives to admit and treat heavy-care patients were used to further modify the nursing cost center. Various financial incentives also were used to reduce other controllable operating costs.

Status: During the first 2 years of the cooperative agreement, project staff finalized aspects of the proposed payment system, assigned volunteer nursing homes to the experimental and control groups, and improved the nursing homes' quality assurance mechanisms. Implementation of the case-mix system began October 3, 1988. The State decided to end the demonstration after 15 months in order to implement the prospective payment system statewide under its Medicaid State plan. Because of the small enrollment and truncated timeframe, the evaluation of the demonstration did not result in any significant findings. A detailed final report is expected late 1991.

Texas Nursing Home Case-Mix Demonstration

Project No.: 11-C-99131/6
Period: September 1987—December 1992
Funding: $ 532,830
Award: Cooperative Agreement
Awardee: State of Texas Department of Human Services
P.O. Box 149030 (MC-E-601)
Austin, TX 78714-9030
Project Officer: Elizabeth S. Cornelius
Division of Long-Term Care Experimentation

Description: The Texas Department of Human Services will conduct a 3-year demonstration to implement and evaluate a Medicaid prospective case-mix payment system. The payment system will be based on feasibility studies sponsored by the Health Care Financing Administration (HCFA). The major Medicaid objectives of the project are to:

- Match payment rates to resident need.
- Promote the admission of heavy-care patients to nursing homes.
- Provide incentives to improve quality of care.
- Improve management practices.
- Demonstrate administrative feasibility of the new system.

The objective for the Medicare pilot test is to develop and implement the administrative processes for a Medicare prospective payment system in 4-6 facilities based on a resource utilization group (RUG) classification. The index that will be used for the classification of Medicare patients is the RUG-T18, which uses the same clinical groups and the activities of daily living (ADL) scale used in the New York RUGs II system. The difference occurs in the expanded rehabilitation groups for Medicare patients. Texas will use a quasi-experimental design for the Medicare pilot test to compare the effect of introducing case-mix payment in an experimental catchment area versus continuing the flat-rate, cost-based system in a control catchment area. The State will use a pre-post design for the Medicaid system. The case-mix classifications are based on a review of six different systems in which the New York RUGs II explained the greatest variance of staff time. The case-mix indexes borrow major elements of the RUGs II system and some of the rationale from the Minnesota system. The Texas index of level of effort (TILE) uses four clinical groups to form clusters and develop subgroups using an ADL scale. Two third-party evaluations will be used—one of data reliability and a second of the validity of the data analysis methods.

Status: During the first year, the TILE and RUG-T18 indexes were reviewed for compatibility. The Medicaid payment system became operational statewide in April 1989. Medicare waivers are being processed and the Medicare pilot test is scheduled for operation in late 1991 for a period of 15 months. The RUG-T18 classification matches the HCFA Medicare coverage guidelines effective April 1988. Cost analyses of both national and State samples of Medicare providers were performed to arrive at baseline costs for calculating the rates for the RUG-T18 groups. The Texas client assessment, review, and evaluation instrument has been reviewed and revised. The new national minimum data set (MDS) was tested on 900 residents, and the interrater reliability was found to be very good between the 2 instruments on similar items. The MDS will be used for Medicare classification. In the Medicare pilot, each week a nurse will review new admissions onsite to classify residents into the RUG-T18 groups and to give prior authorization of the Medicare stays for specific time intervals.

Analysis of Long-Term Care Payment Systems

Project No.: 18-C-98306/8
Period: April 1983—December 1988
Funding: $ 1,394,293
Award: Cooperative Agreement
Awardee: Center for Health Services Research
University of Colorado
1355 South Colorado Boulevard, Suite 706
Denver, CO 80222
Project Officer: Judith A. Sangl
Division of Long-Term Care Experimentation

Description: This project was a comparative analysis of long-term care reimbursement systems in seven States (Colorado, Florida, Maryland, Ohio, Texas, Utah, and West Virginia). The study combined an empirical analysis of nursing home costs and payments and the determinants of costs with a detailed qualitative analysis of the operations of the reimbursement systems. The comparative analysis across States was performed through a unique comparison-by-substitution method that calculated reimbursement for nursing homes in one State under the assumption that the other States' reimbursement systems were in effect. Data sources for this study included primary facility information and patient samples, as well as secondary sources such as cost reports.

Status: The final report consisting of an executive summary and three volumes is available from the National Technical Information Service:

- "An Analysis of Long-Term Care Payment Systems Final Report: Executive Summary," accession number PB91-160507.
- "An Analysis of Long-Term Care Payment Systems: A Multi-State Analysis of Medicaid Nursing Home Payment Systems, Volume I," accession number PB91-160515.
- "An Analysis of Long-Term Care Payment Systems Administering Nursing Home Case-Mix Reimbursement Systems: Issues of Assessment, Quality, Access, Equity and Cost, Volume II," accession number PB91-160523.
- "Analyzing Nursing Home Capital Reimbursement Systems, Volume III," accession number PB91-160531.

Study of Post-Acute Care in Health Maintenance Organizations: Implications for Bundling

Project No.: 99-C-98489/9
Period: August 1991—June 1992
Funding: $ 83,577
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Dennis M. Nugent
Division of Long-Term Care Experimentation

Description: Evidence from previous research suggests that a number of different approaches for managing geriatric care are practiced in health maintenance organizations (HMOs). Several of these approaches appear to have potential for reducing costs and improving quality of care. Little is known about how HMOs handle discharge planning, make placement decisions, track patients, or evaluate treatment. For this project, RAND will examine approaches used by innovative HMOs in the management of post-acute care. The study will identify HMOs with innovative approaches to post-acute care and conduct case studies of a sample of these organizations. The case studies will involve collection of information on the approaches used to arrange, monitor, and evaluate post-acute care. Included will be information on which patients are targeted, how placement decisions are made and who makes them, how services are evaluated, and what conclusions experienced HMOs have reached on cost-effective treatment approaches.

Status: This project is in the early developmental stage.

Analysis of Post-Acute Care Use for Selected Diagnosis-Related Groups

Project No.: 99-C-98526/1
Period: September 1991—March 1992
Funding: $ 149,313
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Dennis M. Nugent
Division of Long-Term Care Experimentation

Description: For this project, Brandeis will study, for selected diagnosis-related groups (DRGs), the characteristics of patients, their variations in types of and costs for post-acute care (PAC) use, their probability of being rehospitalized, and the potential effects of different outlier policies in a bundled payment system. The information from the study could assist the Health Care Financing Administration in exploring possible designs of alternative payment models for acute and PAC services. Researchers will explore the development of payment methodologies that combine payment for acute and PAC services and that are sensitive to the risk associated with variations in types and costs of PAC use. Medicare claims data and data from previous research studies will be used in the analysis. The specific DRGs to be included in the study will be chosen during the study design, based on the predominance of patients who use PAC, the availability of data, and the variability in the types and costs of PAC use. The issues to be included in the analyses are the distribution of patients within DRGs, the variation in types of and costs for PAC use, and the probability of being rehospitalized. The analyses also will model the potential effects of different outlier policies or other risk-adjusted payment approaches to bundle payments for hospital/post-hospital services.

Status: This project is in the early developmental stage.

Modifications of the Texas System of Care for the Elderly: Alternatives to the Institutionalized Aged

Project No.: 11-P-97473/6
Period: January 1980—June 1991
Award: Grant
Grantee: Texas Department of Human Resources
P.O. Box 2960
Austin, TX 78769
Project Officer: Phyllis A. Nagy
Division of Long-Term Care Experimentation
Mandates: Consolidated Omnibus Budget Reconciliation Act of 1985
(Public Law 99-272)
Medicare Catastrophic Coverage Act of 1988
(Public Law 100-360)
Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: The purpose of this project is to reduce the growth of nursing homes in Texas and, at the same time, expand access to community care services for needy Medicaid individuals. This objective is being accomplished by directly changing the operating policies of Texas' Title XIX and Title XX programs, specifically by eliminating the State's lowest level of institutional care, intermediate care facility II (ICF-II). Existing organizations responsible for the State's Title XIX and Title XX programs are responsible for project implementation.

Status: The demonstration ended on June 30, 1991. Notable progress was made in achieving project objectives during the period of the demonstration. In March 1980, there were 15,486 individuals in the ICF-II group; as of July 1991, 17 ICF-II clients remained. From March 1980 to July 1991, the total institutional population was marginally decreased from 64,820 to 62,315 clients (a reduction of 3.9 percent), while the community care population increased substantially from 30,792 to 65,018 (an increase of 111.2 percent). A final report is expected in October 1991.

New Jersey Respite Care Pilot Project

Project No.: 11-P-99333/2
Period: July 1988—September 1992
Award: Grant
Grantee: New Jersey Department of Human Services
5 Quakerbridge Plaza, CN 712
Trenton, NJ 08625
Project Officer: Dennis M. Nugent
Division of Long-Term Care Experimentation

Mandates: Omnibus Budget Reconciliation Act of 1986 (Public Law 99-509)
Omnibus Budget Reconciliation Act of 1987 (Public Law 100-203)
Omnibus Budget Reconciliation Act of 1990 (Public Law 101-508)

Description: The New Jersey Respite Care Pilot Project was established to provide the kind of support the frail elderly and functionally impaired need to remain at home. It was developed to learn if respite care services enhance and sustain the role of the family as caregivers and whether these services delay or avert institutionalization. The project is designed to measure the impact on both care recipients and their caregivers. Respite care is provided under this program by using short-term and intermittent companion services: homemaker, home health aide, and personal care services; adult day care, both social and medical; and out-of-home respite in licensed medical facilities. In addition to these services, peer support, training, and counseling are being provided to family members. All of the services are available in either planned or emergency situations.

Status: Federal funding of this statewide project began on July 1, 1988, and was originally scheduled to end on September 30, 1990. However, the project was extended until September 30, 1992, by the Omnibus Budget Reconciliation Act of 1990. Respite care services have been provided to approximately 2,000 families in each of the past 2 years. Preliminary data indicate that the typical caregiver is a 64-year-old female. About 40 percent of the caregivers are children of the care recipient and another 40 percent are spouses. More than 80 percent assist with dressing and bathing and more than 60 percent help with toileting. Caregivers report that the lack of time for themselves, coupled with the related stress, are the most overwhelming aspects of providing care. A substantial number also find the physical aspects of caregiving particularly difficult. Homemaker/home health aide services have been provided to 75 percent of the care recipients. Fourteen percent of the recipients have used day care programs and 17 percent have had overnight stays in nursing homes or residential care facilities. While 25 percent of the care recipients utilized more than one service, most received only one in-home visit. The average age of the care recipient is 78 and only 9 percent are age 60 or under. The large majority of this group's medical problems appear age-related. Twenty-two percent of the care recipients have Alzheimer's disease or a related disorder. The evaluation of the project is being conducted by the Institute for Health, Health Care Policy, and Aging Research at Rutgers University.

Study of Adult Daycare Services

Project No.: 500-89-0024
Period: June 1989—January 1990
Funding: $ 96,950
Award: Contract
Contractor: Institute for Health and Aging
University of California, San Francisco
201 Filbert Street
San Francisco, CA 94133
Project Officer: J. Donald Sherwood
Division of Long-Term Care Experimentation

Description: The purpose of this survey of adult day centers was to provide updated information on:

- Who the adult day centers serve.
- The number of centers and their locations.
- The services the centers provide.
- The characteristics of operating these centers.
- Who funds these centers.
- The cost of operating these centers.
- Licensing, certification, and quality assurance standards governing these centers.
- How these characteristics vary by State.

Status: Funding for the survey was obtained from the American Association for Retired Persons. All the known and designated adult day centers in the United States (over 2,100) were mailed a survey during February 1989. Responses were received from 1,425 centers in 49 States providing information on organizational structure, licensing and certification, client characteristics, operating time and attendance, services provided, staffing, program costs, and revenue. A contract was awarded to the University of California, San Francisco, to perform the analyses of the survey data. The contractor found that most centers are nonprofit organizations. The service package available in adult day centers varies, but most centers include recreational therapy; meals and transportation; social work; nursing; personal care; and medical assessment. Clients are predominantly older persons who are physically and/or cognitively impaired. The average program enrollment was 37 and daily attendance was fewer than 20. The daily operating cost in 1989 was $36, with more than one-half of the centers operating at a deficit. Medicaid was the largest funding source of adult daycare. A draft final report on the analysis has been received and is being revised. The final report is expected to be available by the end of 1991. With the repeal of the Medicare Catastrophic Coverage Act of 1988, this project is no longer congressionally mandated.

On Lok's Risk-Based Community Care Organization for Dependent Adults

Project Nos.: 95-P-98246/9; 11-P-98334/9
Period: November 1983—Indefinite
Award: Grants
Grantees: On Lok Senior Health Services
1441 Powell Street
San Francisco, CA 94133
California Department of Health Services
714-744 P Street
Sacramento, CA 95814

Project Officer: J. Donald Sherwood
Division of Long-Term Care Experimentation

Mandates: Social Security Amendments of 1983 (Public Law 98-21)
Consolidated Omnibus Budget Reconciliation Act of 1985 (Public Law 99-272)

Description: As mandated by Sections 603(c)(1) and (2) of Public Law 98-21, the Health Care Financing Administration granted Medicare waivers to On Lok Senior Health Services and Medicaid waivers to the California Department of Health Services. Together, these waivers permitted On Lok to implement an at-risk, capitated payment demonstration in which more than 300 frail elderly persons, certified by the California Department of Health Services for institutionalization in a skilled nursing facility, are provided a comprehensive array of health and health-related services in the community. The current demonstration maintains On Lok's comprehensive community-based program but has modified its financial base and reimbursement mechanism. All services are paid for by a predetermined capitated rate from both Medicare and Medicaid (Medi-Cal). The Medicare rate is based on the average per capita cost for the San Francisco county Medicare population. The Medi-Cal rate is based on the State's computation of current costs for similar Medi-Cal recipients, using the formula for prepaid health plans. Individual participants may be required to make copayments, spend down income, or divest assets, based on their financial status and eligibility for either or both programs. On Lok has accepted total risk beyond the capitated rates of both Medicare and Medi-Cal with the exception of the Medicare payment for end stage renal disease. The demonstration provides service funding only under the waivers. The research and development activities are funded through private foundations.

Status: Section 9220 of Public Law 99-272 has extended On Lok's Risk-Based Community Care Organization for Dependent Adults indefinitely, subject to the terms and conditions in effect as of July 1, 1985, except that requirements relating to data collection and evaluation do not apply.

Program for All-Inclusive Care for the Elderly (On Lok) Case Study

Project No.: 99-C-99169/5
Period: August 1989—June 1991
Funding: $ 172,138
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Nancy A. Miller, Ph.D.
Division of Long-Term Care Experimentation

Mandates: Omnibus Budget Reconciliation Act of 1986 (Public Law 99-509)
Omnibus Budget Reconciliation Act of 1987 (Public Law 100-203)
Omnibus Budget Reconciliation Act of 1990 (Public Law 101-508)

Description: For this study, researchers will provide a descriptive analysis of the early stages of the Program for All-Inclusive Care for the Elderly (PACE) demonstration. They will examine in detail the model of service delivery provided by On Lok Senior Health Services, San Francisco, California, and the degree to which aspects of this model are successfully replicated in eight sites nationwide. The results are expected to have utility as subsequent sites are developed for later implementation.

Status: Two rounds of site visits to On Lok and PACE sites were completed and an interim report was submitted. A final report entitled "Qualitative Analysis of the Program for All-Inclusive Care for the Elderly (On Lok) Case Study" has been accepted and will be sent to the National Technical Information Service. In addition to comparing eight PACE sites to On Lok on seven features of the PACE model, the researchers offer some lessons learned from the first eight sites regarding replicability; sources of start-up and development funds, census building, staffing, and patient mix of enrollees are seen as critical issues to future sites. Also offered are some issues to be faced by the evaluators, including the difficulty of selecting appropriate comparison groups, data equivalence across experimental and comparison groups, the need to collect additional data regarding enrollee outcomes (e.g., client and family satisfaction, affect, and quality of life), and statistical power and the role of pooling.

Quality of Care in the Program for All-Inclusive Care for the Elderly Model

Project No.: 99-C-99169/5
Period: August 1991—July 1992
Funding: $ 60,117
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Nancy A. Miller, Ph.D.
Division of Long-Term Care Experimentation

Mandates: Omnibus Budget Reconciliation Act of 1986 (Public Law 99-509)
Omnibus Budget Reconciliation Act of 1987 (Public Law 100-203)
Omnibus Budget Reconciliation Act of 1990 (Public Law 101-508)

Description: The purpose of this study is to develop measures to assess quality of care on both a routine and periodic basis in the Program for All-Inclusive Care for the Elderly (PACE) model of care. These measures may be used in PACE site quality assurance programs and quality assurance monitoring undertaken by the Health Care Financing Administration and State Medicaid agencies. Attention will be given to measures that reflect concerns relevant to both acute and long-term care and the provision of that care in an integrated, capitated system.

Status: This project is in the early developmental stage.

Frail Elderly Demonstration: The Program for All-Inclusive Care for the Elderly

Period: June 1990—October 1994
Award: Grant
Project Officer: Nancy A. Miller, Ph.D.
Division of Long-Term Care Experimentation
Mandates: Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)
Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)
Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: As mandated by Public Law 99-509, as amended, the Health Care Financing Administration will conduct a demonstration which replicates, in not more than 15 sites, the model of care developed by On Lok Senior Health Services in San Francisco, California. The Program for All-Inclusive Care for the Elderly (PACE) demonstration replicates a unique model of managed-care service delivery for 300 very frail community-dwelling elderly, most of whom are dually eligible for Medicare and Medicaid coverage and all of whom are assessed as being eligible for nursing home placement according to the standards established by participating States. The model of care includes as core services the provision of adult day health care and multidisciplinary case management through which access to and allocation of all health and long-term care services are arranged. Physician, therapeutic, ancillary, and social support services are provided onsite at the adult day health center whenever possible. Hospital, nursing home, home health, and other specialized services are provided extramurally. Transportation is also provided to all enrolled members who require it. This model is financed through prospective capitation of both Medicare and Medicaid payments to the provider. Demonstration sites are to assume financial risk progressively over 3 years, as stipulated in the Omnibus Budget Reconciliation Act of 1987. The six sites and their State Medicaid agencies that have been granted waiver approval to provide services are:

Elder Service Plan
Project No.: 95-P-99357/1
Period: October 1989—May 1993
Grantee: East Boston Geriatric Services, Inc.
10 Gove Street
East Boston, MA 02128

Project No.: 11-P-99356/1
Period: October 1989—May 1993
Grantee: Massachusetts State Department of Public Welfare
180 Tremont Street
Boston, MA 02111

Providence ElderPlace
Project No.: 95-P-99359/0
Period: October 1989—May 1993
Grantee: Providence Medical Center
4805 Northeast Glisan Street
Portland, OR 97213

Project No.: 11-P-99358/0
Period: October 1989—May 1993
Grantee: Oregon State Department of Human Resources
313 Public Service Building
Salem, OR 97310

Comprehensive Care Management
Project No.: 95-P-99361/2
Period: October 1989—August 1993
Grantee: Beth Abraham Hospital
612 Allerton Avenue
Bronx, NY 10467

Project No.: 11-P-99360/2
Period: October 1989—August 1993
Grantee: New York State Department of Social Services
40 North Pearl Street
Albany, NY 12243

Palmetto SeniorCare
Project No.: 95-P-99630/4
Period: August 1990—September 1993
Grantee: Richland Memorial Hospital
Five Richland Medical Park
Columbia, SC 29203

Project No.: 11-P-99629/4
Period: August 1990—September 1993
Grantee: South Carolina State Health and Human Services Finance Commission
P.O. Box 8206
Columbia, SC 29202

Community Care for the Elderly
Project No.: 95-P-99628/5
Period: August 1990—October 1993
Grantee: Community Care Organization of Milwaukee County, Inc.
1845 North Farwell Avenue
Milwaukee, WI 53202

Project No.: 11-P-99627/5
Period: August 1990—October 1993
Grantee: Wisconsin State Department of Health and Social Services
P.O. Box 7850
Madison, WI 53707

Total Longterm Care, Inc.
Project No.: 95-P-99647/8
Period: August 1991—July 1994
Grantee: Total Longterm Care, Inc.
1801 East 19th Avenue
Denver, CO 80218

Project No.: 11-P-99646/8
Period: August 1991—July 1994
Grantee: Colorado Department of Social Services
1575 Sherman Street
Denver, CO 80203

Status: Up to nine additional sites will be phased in over the next 2 years. A contract to evaluate the PACE demonstration was awarded in June 1991. Presentations of the demonstration implementation issues were given at the following national meetings: American Hospital Association Annual Meeting, Henry Ford System Annual Conference, Group Health Association of America Annual Meeting, National Council on Aging Annual Conference, Gerontology Association of America Summer Institute, and Gerontology Association of American Annual Conference.

Evaluation of the Program for All-Inclusive Care for the Elderly Demonstration

Project No.: 500-91-0027
Period: June 1991—February 1996
Funding: $ 4,486,514
Award: Contract
Contractor: Abt Associates, Inc.
55 Wheeler Street
Cambridge, MA 02138-1168
Project Officer: Nancy A. Miller, Ph.D.
Division of Long-Term Care Experimentation
Mandates: Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)
Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)
Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: The Program for All-Inclusive Care for the Elderly (PACE) demonstration replicates a unique model of managed-care service delivery for 300 very frail community-dwelling elderly, most of whom are dually eligible for Medicare and Medicaid coverage and all of whom are assessed as being eligible for nursing home placement according to the standards established by participating States. The model of care includes as core services the provision of adult day health care and multidisciplinary team case management through which access to and allocation of all health and long-term care services are arranged. This model is financed through prospective capitation of both Medicare and Medicaid payments to the provider. The purpose of the evaluation is to examine PACE sites before and after assumption of full financial risk, with the purpose of determining whether the PACE model of care, as a replication of the On Lok Senior Health Services model of care, is cost effective relative to the existing Medicare and Medicaid systems. Specific evaluation questions relate to the model of care and the effects of the model on participant utilization, expenditures, and outcomes.

Status: An initial round of site visits has been completed, and the evaluation design and data collection plan are being revised based on these site visits.

Capitation Reimbursement for Frail Elderly

Project No.: 99-C-98526/1
Period: August 1988—July 1990
Funding: $ 74,392
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Nancy A. Miller, Ph.D.
Division of Long-Term Care Experimentation
Mandates: Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)
Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)

Description: This project involved examining data on Medicaid nursing home certifiable beneficiaries as a means to analyze and refine the capitated reimbursement methodology being implemented in the congressionally mandated Program for All-Inclusive Care for the Elderly (PACE) demonstration. The PACE demonstration attempted to replicate the model developed by On Lok Senior Health Services in San Francisco, California.

Status: The final report, "Capitation Rates for the Frail Elderly," is available from the National Technical Information Service, accession number PB91-141408. Data gathered as part of the social health maintenance organization (S/HMO) demonstration were used to develop a model to predict whether a person is nursing home certifiable (NHC). The data included a health status form completed by each S/HMO member and data from a clinical assessment of persons who were regarded as requiring long-term care services. When applied to a frail elderly population, the model correctly classified almost 80 percent of individuals who would be in need of 24-hour care if they were clinically reviewed. The model was subjected to a number of reliability tests and is stable. Data from the 1982 and 1984 National Long-Term Care Surveys (NLTCS), linked to Medicare records, were used to estimate per capita Medicare costs of the NHC population for the

period 1982-84. The model predicting NHC was applied to NLTCS data to identify an NHC sample from the total NLTCS elderly population. Per capita costs of the NHC sample for the period 1982-84 were then estimated. The best estimate is that per capita Medicare costs of the frail elderly who are NHC average 2.42 times higher than the average per capita costs for the overall elderly population. Important systematic variations in these average costs exist when related to individual characteristics of persons in the NHC sample.

Bundling of Acute and Post-Acute Care Services into Payment for an Episode of Care

Project No.: 99-C-99169/5
Period: August 1990—September 1991
Funding: $ 71,605
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Dennis M. Nugent
Division of Long-Term Care Experimentation

Description: The University of Minnesota is preparing a report containing an examination of the issue of paying for hospital and post-hospital care collectively as a single episode of care. The Health Care Financing Administration is interested in developing alternative approaches that would encourage organizations to combine or merge acute and post-acute services for Medicare beneficiaries under a payment arrangement other than the present system. The University's final report will focus on the feasibility of various design options for managing, coordinating, and paying for hospital and post-hospital care.

Status: In July 1991, a draft report was reviewed by a technical expert panel representing the constituencies who would be most affected by bundling health care services; i.e., hospitals, post-acute care providers, and consumers. The draft report has been revised to reflect the comments and recommendations of this panel and is currently under review.

Arizona Health Care Cost-Containment System

Project No.: 11-P-98239/9
Period: June 1982—September 1993
Award: Grant
Grantee: Arizona Health Care Cost-Containment System Administration
801 East Jefferson
Phoenix, AR 85034
Project Officer: Sidney Trieger
Division of Health Systems and Special Studies

Description: This project is designed to test the effectiveness of establishing, under Title XIX of the Social Security Act, a Medicaid program based on competitive principles, including primary care physicians acting as gatekeepers, prepaid capitated contracts, competitive bidding, use of nominal copayments, limited restrictions on freedom of choice, and capitated payment by the Health Care Financing Administration. Although acute services continue to be provided by health plans, long-term care (LTC) services are provided through capitated contracts by the State with the two largest Arizona counties and two LTC contractors. The major features of the Arizona Long-Term Care System (ALTCS) are:

- County and State governments share the burden for financing the non-Federal portion of the program.
- The State is at limited financial risk for services provided to the developmentally disabled (DD).
- Program contractors are at financial risk for providing services through prepaid capitation payments made by the State.
- Prevention of member dumping and promotion of cost effectiveness are accomplished by bundling LTC and acute care services into one capitation rate.
- Clients at risk of being institutionalized are treated in the least restrictive, most cost-effective manner by providing them with a full continuum of LTC services from skilled nursing home care to home care. Home and community-based expenditures cannot exceed 18 percent of total LTC expenditures for the elderly and physically disabled population. There is no such limit for the DD population.
- LTC services are procured through competitive bidding and selective contracting.
- Strong program controls are employed, including a stringent preadmission screening program, case management, quality assurance, quality control, uniform accounting and reporting, and auditing.

Status: The Arizona Health Care Cost-Containment System (AHCCCS) began operation on October 1, 1982, and initially covered only acute care services. The ALTCS component was approved as part of a 5-year extension of the AHCCCS demonstration from October 1, 1988, through September 30, 1993, and has completed its third year of operation.

Evaluation of the Arizona Health Care Cost-Containment System

Project No.: 500-89-0067
Period: September 1989—September 1994
Funding: $ 3,392,620
Award: Contract
Contractor: Laguna Research Associates
455 Market Street, Suite 1190
San Francisco, CA 94105
Project Officer: Ronald W. Lambert
Division of Health Systems and Special Studies

Description: For this project, the contractor is evaluating the continuing operation of the Arizona Health Care Cost-Containment System (AHCCCS), with particular emphasis on the implementation and operation of the Arizona Long-Term Care System (ALTCS), a new component of AHCCCS which began in December 1988. AHCCCS is a unique, State-sponsored capitation

demonstration that provides public assistance medical care to residents of Arizona who are eligible for Aid to Families with Dependent Children and Supplemental Security Income cash payments. Major research questions to be investigated include:

- Does combining long-term care (LTC) and acute care services into one payment to local program contractors result in improved LTC and reduction of acute care services?
- Does competitive bidding and selective contracting result in lower per unit LTC service cost?
- How effective is the preadmission screening (PAS) instrument used by ALTCS in identifying individuals who are at risk of being institutionalized?
- Can home and community-based (HCB) services be substituted for long-term institutional care for individuals who pass PAS, and are those HCB services less expensive than institutional care?
- Does case management of LTC services result in lower cost and better coordination of care?
- What are the effects of capitating LTC services?
- Is the ALTCS more cost effective than a comparable State's fee-for-service LTC program?

Status: This evaluation is beginning its third year. The first implementation and operation report and the first outcome report have been received. Results to date indicate that AHCCCS is making progress in establishing administrative structures and systems that are necessary to operate and manage a prepaid LTC Medicaid program. Pilot studies for the evaluation of the quality of care have been conducted to pretest the study methodology. These were successful in designing the overall methodology for the full-scale study. For the first year of the program, the ALTCS cost per day of institutional care was the same as the estimated cost of a traditional Medicaid program in Arizona. The AHCCCS acute care program cost continued to be less than the cost of a traditional fee-for-service program.

Policy Study of the Cost Effectiveness of Institutional Subacute Care Alternatives and Services: 1984-92

Project No.: 18-C-99491/8
Period: May 1990—April 1994
Funding: $ 1,370,000
Award: Cooperative Agreement
Awardee: University of Colorado
Health Sciences Center
4200 East 9th Avenue, Box C-241
Denver, CO 80262
Project Officer: Judith A. Sangl
Division of Long-Term Care Experimentation

Description: The University of Colorado will assess which subacute institutional settings and combinations of services are most cost effective and provide more positive outcomes for various types of patients. Researchers will identify potential Health Care Financing Administration (HCFA) policy changes that might encourage use of the most appropriate settings and services. This 4-year project will use primary and secondary data from three previous HCFA-sponsored studies to compare quality, cost effectiveness, case mix, service mix, and utilization among institutional subacute care alternatives (e.g., skilled nursing facilities and rehabilitation hospitals) within and between two time periods—1984-87 and 1990-92. This methodology is designed to determine the most cost-effective combinations of services and provider settings for various types of patients requiring subacute care; i.e., stroke, hip fracture, ventilator dependency, and congestive heart failure.

Status: Data collection instruments have been designed and are awaiting clearance from the Office of Management and Budget. Facilities are currently being recruited for the study. Secondary analyses with data from the Medicare Automated Data Retrieval System are under way.

Implementation of Home Health Agency Prospective Payment Demonstration

Project No.: 500-90-0024
Period: June 1990—June 1995
Funding: $ 1,629,606
Award: Contract
Contractor: Abt Associates, Inc.
55 Wheeler Street
Cambridge, MA 02138-1168
Project Officer: Marilyn J. Vranas
Division of Long-Term Care Experimentation
Mandate: Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)

Description: This contract involves implementation and monitoring of the demonstration developed by Abt Associates under contract number 500-84-0021, Home Health Agency Prospective Payment Demonstration; period, September 1983-March 1990. This project will implement a demonstration testing alternative methods of paying home health agencies (HHAs) on a prospective basis for services furnished under the Medicare program. This demonstration will test two prospective payment approaches—payments per visit by type of discipline and payments per episode of Medicare-covered home health care.

Status: In June 1990, Abt Associates began recruiting HHAs to participate in the demonstration's first phase. This phase involving the per visit payment method began operation on October 1, 1990. Recruitment of HHAs to voluntarily participate in this phase will continue through September 30, 1991. HHAs that agree to participate enter the demonstration at the beginning of their next fiscal year. Approximately 50 HHAs have agreed to participate in Phase I. Further development work on the per episode payment method is being carried out in 1991, and implementation of the second phase testing the per episode payment method is scheduled to begin in 1992. The study design calls for the recruiting of an additional 66 HHAs to participate in

Phase II beginning in early 1993. In each phase, HHAs that agree to participate are randomly assigned to either the prospective payment method or to a control group that continues to be reimbursed in accordance with the Medicare current retrospective cost system. Each HHA will participate in the demonstration for 3 years.

Evaluation of the Home Health Prospective Payment Demonstration

Project No.: 500-90-0047
Period: September 1990—June 1995
Funding: $ 2,858,676 (Phase I)
Award: Contract
Contractor: Mathematica Policy Research, Inc.
P.O. Box 2393
Princeton, NJ 08543-2393
Project Officer: Tony Hausner, Ph.D.
Division of Long-Term Care Experimentation
Mandate: Omnibus Budget Reconciliation Act of 1987
(Public Law 100-203)

Description: The purpose of this contract is to evaluate the first phase of a demonstration designed to test the effectiveness of using prospective payment methods to reimburse Medicare-certified home health agencies (HHAs) for services provided under the Medicare program. In Phase I, a per visit payment method which sets a separate payment rate for each of six types of home health visits (i.e., skilled nursing, home health aide, physical therapy, occupational therapy, speech therapy, and medical social services) will be tested. Mathematica Policy Research will evaluate the effects of this payment method on HHAs' operations, quality of services HHAs deliver to Medicare beneficiaries, and Medicare expenditures. The contractor will also analyze the relationship between patient characteristics and the cost and use of HHA services in order to develop improved methodologies for adjusting prospective payment rates for case-mix variations.

Status: The demonstration began on October 1, 1990. The contractor has submitted a design report, information collection clearance packages, and several quarterly reports. The contractor is currently conducting case studies and case-mix analyses, as well as other analyses of HHA costs and service use patterns, to assist the Health Care Financing Administration in refining the per episode payment method that will be tested in Phase II of this demonstration. A special report on the results of the contractor's case-mix analyses is expected in spring 1992. Phase II of the demonstration, which will test the per episode payment method, is scheduled to begin in early 1993.

Develop and Demonstrate a Method for Classifying Home Health Patients to Predict Resource Requirements and to Measure Outcomes

Project No.: 17-C-98983/3
Period: June 1987—March 1991
Funding: $ 968,332
Award: Cooperative Agreement
Awardee: Georgetown University
Georgetown School of Nursing
3700 Reservoir Road, NW.
Washington, DC 20007
Project Officer: Margaret F. Coopey
Division of Long-Term Care Experimentation

Description: The purpose of this project is to develop a method for classifying patients that will predict resource requirements and measure outcomes of Medicare patients in certified home health agencies (HHAs). Data on 73 dependent variables were collected from the home health records of approximately 9,000 recently discharged Medicare patients drawn from a national sample of approximately 650 certified HHAs, stratified by size, ownership, and geographic location. The data are being analyzed, using multivariate statistical techniques to determine which variables are most predictive of resource requirements. The identified relevant variables will be incorporated into a classification method with an assessment tool that categorizes patients according to predicted resource requirements. A data base of participating HHAs and the characteristics of their Medicare patients will be created.

Status: Analysis of the data collected in the study indicated that patients' nursing diagnoses and nursing procedures are important variables in explaining home health resource use and costs. The final report entitled "Develop and Demonstrate a Method for Classifying Home Health Patients to Predict Resource Requirements and to Measure Outcomes" has been received and will be sent to the National Technical Information Service.

Analysis of Home Health Cost and Service Utilization Issues

Project No.: 99-C-99169/5
Period: September 1991—July 1992
Funding: $ 189,607
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Tony Hausner, Ph.D.
Division of Long-Term Care Experimentation

Description: For this study, researchers will prepare a synthesis of research findings related to prospective payment and analyze Medicare claims data to examine several aspects of prospective payment methodologies for home health agencies, such as outlier cases and volume adjustments. These analyses will provide information to the Health Care Financing Administration for use in the future development of prospective payment methodologies for Medicare home health services.

Status: This project is in the early developmental stage.

Long-Term Care Populations

Long-Term Care of Aged Individuals with Hip Fractures: Public versus Private Costs

Project No.: 18-C-98393/3
Period: September 1983—September 1988
Funding: $ 711,793
Award: Cooperative Agreement
Awardee: University of Maryland Medical School
655 West Baltimore Street
Baltimore, MD 21201
Project Officer: Judith A. Sangl
Division of Long-Term Care Experimentation

Description: For this study, researchers examined the complex economic and psychosocial determinants of the public and private contribution to the long-term care of a group of aged individuals who suddenly became disabled by hip fractures. The impacts of family size and composition, social support, family economic resources, and the aged individuals' physical and mental health were analyzed in terms of the decisions to enter a nursing home or to return home. Study data came from 858 patients from 7 hospitals in the Baltimore, Maryland, area.

Status: The final report entitled "Long Term Care of Aged Hip Fractures: Public vs. Private Costs" is available from the National Technical Information Service, accession number PB91-168609.

Demand for Formal and Informal Home Care among the Functionally Impaired Elderly in the Community

Project No.: 500-90-0010
Period: August 1991—March 1992
Funding: $ 16,000
Award: Contract
Contractor: Fu Associates
2300 Clarendon Boulevard, Suite 1400
Arlington, VA 22201
Project Officer: Judith A. Sangl
Division of Long-Term Care Experimentation

Description: For this project, the contractor is providing programming support for an analysis of the demand for home care. The 1984 National Long-Term Care Survey is the primary data base being used for the analysis. A synthetic market price will be created from Medicare home health charges and merged with the 1984 survey for the analysis.

Status: This project is in the early developmental stage.

Testing the Predictive Validity of Using Medicare Claims Data to Target High-Cost Patients

Project No.: 99-C-98526/1
Period: August 1991—May 1992
Funding: $ 139,898
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Phyllis A. Nagy
Division of Long-Term Care Experimentation

Description: For this study, Brandeis will investigate the feasibility of using historical Medicare claims data of patients hospitalized with certain primary diagnoses in order to identify a subset of patients who are more likely to incur high levels of Medicare reimbursements in the future. Analysis will be restricted to a sample of hospital patients with selected illnesses where past research indicates the specific patient diagnosis eventually results in higher Medicare costs, and it is determined that targeted case management or coordinated care programs can be potentially effective (based on research and/or professional clinical judgment) in reducing overall health care costs.

Status: This project is in the early developmental stage.

A National and Cross-National Study of Long-Term Care Populations

Project No.: 18-C-98641/4
Period: September 1984—June 1991
Funding: $ 1,016,587
Award: Cooperative Agreement
Awardee: Duke University
Center for Demographic Studies
2117 Campus Drive
Durham, NC 27706
Project Officer: Herbert A. Silverman, Ph.D.
Division of Program Studies

Description: Based on data from the 1982 and 1984 National Long-Term Care Surveys (NLTCSs), the researchers will forecast the size and the socioeconomic characteristics, health status, and cognitive and physical functioning capacities of the aged population in the United States into the middle of the 21st century. These projections are being compared with similar information from other countries. The findings will be useful for planning long-term care (LTC) programs for functionally impaired aged persons. The project has been expanded to conduct additional analyses on:

- Identifying clusters of characteristics that distinguish groups of functionally impaired aged persons living in the community and that are associated with differential patterns of use of and expenditures for home health care services.
- Comparing hospital and post-hospital experiences of persons in the 1982 and 1984 NLTCSs and relating these experiences to changes in their functional and health status in the interim. Ascertaining, as an extension of this analysis, whether there have been substitutions for different types of services over time in light of the patients' changed health and functional status. For example, are home health services used more in lieu of nursing home services?

- Describing and comparing out-of-pocket health care expenses relative to aged persons' health status, functional and cognitive disabilities, and access to informal caregiving services.
- Examining the impact of institutionalization and the medical expenses incurred prior to and after institutional placement on the spouse who is not institutionalized. This analysis will include the impact of one spouse's institutionalization on the other spouse's economic, residential, health, and functional status as well as the Medicaid spend-down process as experienced by the noninstitutionalized spouse.
- Refining the calibration of the underwriting factors used in computing the adjusted average per capita cost for establishing the capitation rates for aged Medicare enrollees joining health maintenance organizations and other prepayment plans. This will include combining detailed data on the functional and socioeconomic characteristics of the aged population from the 1982 and 1984 NLTCSs with Medicare utilization and expenditure data.
- Converting the data tape from the 1984 NLTCS to a format suitable for public distribution.
- Estimating what the Medicare expenditures would have been in 1982 and 1984 had the provisions of the Medicare Catastrophic Coverage Act (MCCA) of 1988 been in effect. (This was added to the project's scope of work in January 1989.)

Status: Public use data tapes from the 1982 and 1984 NLTCSs are available from the National Technical Information Service (NTIS). There are three parts to the package and each may be purchased separately:

- Documentation for the data tapes is available in paper copy or microfiche. The accession number is PB88-172267.
- Data from the 1982 and 1984 NLTCSs are available in two separate tapes. One contains data on persons interviewed in 1982 and 1984. This provides the longitudinal perspective on persons in the surveys. The second contains data on all persons who participated in the 1984 NLTCS including data on aged persons who became Medicare beneficiaries after the 1982 survey was conducted. This provides a cross-sectional perspective on functionally impaired aged Medicare beneficiaries in 1984. The 1984 data on persons in nursing homes are more complete than the data obtained in 1982. The accession number is PB88-172242.
- Medicare Part A bill data for services received from 1978 to 1985 by persons participating in the NLTCSs constitute the third tape. The coding scheme permits person-level linkage of the bill file to persons participating in the surveys. The accession number is PB88-172259.

In addition, the report entitled "A National and Cross-National Study of Long-Term Care Populations" is available from NTIS, accession number PB89-190342. This report covers all the tasks described except for the modification added in January 1989—estimating the impact of MCCA on Medicare expenditures had the provisions been in effect in 1982 and 1984. Among the salient findings were:

- The number of elderly persons in the United States who might need LTC services in the community or in institutions because of impairments in activities of daily living is expected to increase from about 6.8 million in 1985 to 19.0 million in 2040.
- Given optimistic assumptions about continuing decreases in the mortality rate, the number of elderly persons with functional impairments in activities of daily living could be as great as 23.6 million by 2060.
- These estimates could be significantly affected by prevention or improved treatment of disabling conditions such as arthritis. A 50-percent reduction in the prevalence of arthritis would reduce, by 2040, the number of persons with arthritis 1.5 million below current projections.

Findings also show that diseases for which we know the most about risk factors and control (e.g., heart diseases, stroke, and cancer) are lethal diseases that produce relatively little long-term disability. In contrast, the diseases that are not as well studied and for which we have fewer effective controls (e.g., dementia, osteoporosis, rheumatoid arthritis, and osteoarthritis) are chronic degenerative diseases that produce the most long-term disability. Thus, without considerable new research on these and other disabling diseases, total life expectancy is likely to increase more rapidly than disability-free life expectancy. This will tend to increase the prevalence of disability and the need for LTC services. The report estimating what Medicare expenditures would have been in 1982 and 1984 had the provisions of the MCCA been in effect is expected to be completed in late 1991.

Long-Term Care Survey

Period:	September 1990—February 1993
Award:	Interagency Agreement
Agency:	National Institute on Aging 9000 Rockville Pike Bethesda, MD 20892
Project Officer:	Judith A. Sangl Division of Long-Term Care Experimentation

Description: The Office of the Assistant Secretary for Planning and Evaluation and the Health Care Financing Administration agree to transfer funds to the National Institute on Aging (NIA) to support an existing NIA grant to Duke University, Center for Demographic Studies.. This grant, number 1R37AG07198, is entitled Functional and Health Changes of the Elderly, 1982-89. The National Long-Term Care Survey (NLTCS) is a detailed household survey of persons 65 years of age or over who have some chronic (90 days or more) functional impairment. The survey has been administered three times. The first, conducted in 1982, was devised as a cross-sectional survey. The second, conducted in 1984, added a longitudinal component to the sample design. The third, administered in 1989, used

the cohorts from the previous surveys in addition to persons becoming 65 years of age to form a nationally representative sample of impaired elderly persons. To facilitate the use of the data base, the following tasks related to the 1982, 1984, and 1989 NLTCSs will be carried out under this agreement:

- File linkage over the entire period 1982-89.
- Derivation of new longitudinal sample weights.
- Linkage of Medicare administrative records.
- Improvement of coding by checking consistency of survey items.
- Improvement in survey documentation.
- Seminars and education.

Status: Funds for work relating to the 1989 NLTCS were just awarded. Weights for the 1982 and 1984 surveys have been revised. A file with Medicare Part B records has been prepared. File cleanup and documentation improvement for the 1982 and 1984 NLTCSs are proceeding.

The Development of Long-Term Care Reform Strategy for New York's Office of Mental Retardation and Developmental Disabilities

Project No.: 11-C-99309/2
Period: June 1988—December 1990
Funding: $ 115,581
Award: Cooperative Agreement
Awardee: New York State Department of Social Services
Division of Medical Assistance
40 North Pearl Street
Albany, NY 12243
Project Officer: Nancy A. Miller, Ph.D.
Division of Long-Term Care Experimentation

Description: The New York Office of Mental Retardation and Developmental Disabilities is conducting a 2½-year project to develop a comprehensive plan and waiver application that would reform the financing, regulation, and service delivery of the mentally retarded and developmentally disabled (MR/DD) system in three districts covering eight New York counties. The State considers the demonstration as the first step toward statewide implementation. The objectives are to:

- Develop a financing system that will improve services to the MR/DD population by expanding the number and types of people to be served and the types of services to be provided.
- Change the manner in which quality of care is assured.
- Constrain growth in Federal expenditures for these services.

Waivers would alter the Medicaid basis of payment, revise the State Medicaid plan requirements, change how Medicaid funds can be used, and implement revised quality assurance regulations. The demonstration will test an alternative financing approach that approximates recently formulated departmental policy directions as developed by the Department of Health and Human Services working group on intermediate care facilities for the mentally retarded. The project represents a major test of reform in the delivery of services for persons who are developmentally disabled.

Status: Both national and State-level advisory panels have been convened and issue papers have been completed. The State has submitted a Medicaid 2176 home and community-based care waiver to implement this project and expects to implement the project in fall 1991. A final report is expected by December 1991.

Community Care for Alzheimer's and Related Diseases

Project No.: 18-P-99020/3
Period: June 1987—December 1989
Funding: $ 127,970
Award: Grant
Grantee: The Urban Institute
Health Policy Center
2100 M Street, NW.
Washington, DC 20037
Project Officer: J. Donald Sherwood
Division of Long-Term Care Experimentation
Mandate: Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)

Description: The Urban Institute has analyzed data from the National Long-Term Care Channeling Demonstration (1982-84) to determine the range of services, sources, and costs of care used by community residents with cognitive impairment and to determine the risks of their entering nursing homes, as a function of physical and mental health status and the types and amounts of care received in the community. The study is expected to determine the utility of the Channeling and other available data bases in identifying and determining the service utilization of community residents with cognitive diseases. It also will provide baseline information for the Medicare Alzheimer's Disease Demonstration.

Status: The final report entitled "Community Care for Alzheimer's and Related Diseases," relating to the identification and service utilization of persons with cognitive diseases, has been received and is under review. When accepted, the report will be sent to the National Technical Information Service. In addition, the Health Care Financing Administration approved an additional task that involved assessing the feasibility of using a longitudinal data base from The Triage, Connecticut Community Care, Inc. This data base contains details on patient assessment and management systems that may provide additional information on the costs of persons with Alzheimer's and related diseases. As a result, a new award entitled Determination of Home Care Costs was made through the Brandeis University Research Center cooperative agreement to conduct further studies with this data base.

Evaluation Design for the Medicare Alzheimer's Disease Demonstration

Project No.: 500-87-0028
Period: October 1987—July 1989
Funding: $ 432,325
Award: Technical Support: Evaluation of Demonstrations
(See page 82)
Contractor: Mathematica Policy Research, Inc.
P.O. Box 2393
Princeton, NJ 08543-2393
Project Officer: Dennis M. Nugent
Division of Long-Term Care Experimentation
Mandate: Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)

Description: Section 9342 of Public Law 99-509 required the Secretary of Health and Human Services to conduct at least 5 (but not more than 10) demonstration projects to determine the effectiveness, cost, and impact on health status and functioning of providing comprehensive services to Medicare beneficiaries who have Alzheimer's disease or related disorders. The legislation specified that the project was to be conducted over a period of 3 years in sites that were geographically diverse and located in States with a high proportion of Medicare beneficiaries. The services to be provided were to include case management; home and community-based services (e.g., adult day care and personal care services); and education, counseling, and other supportive services for the caregiver of the Alzheimer's patient. In 1987, a contract was awarded to Mathematica Policy Research, Inc., to assist the Health Care Financing Administration in developing the research design and evaluation plan for the demonstration.

Status: Two models of care are being studied, both of which include case management and a wide range of in-home and community-based services. The two models vary according to the intensity of the case management clients receive and the level of reimbursement that is available to pay for demonstration services. Eight sites are participating in the demonstration, which began in May 1989. Mathematica Policy Research provided assistance in the selection of these sites and developed the primary data instruments. A final report entitled "Final Report for the Design of the Medicare Alzheimer's Disease Demonstration and Evaluation," which summarizes the activities performed under this design contract, will soon be available from the National Technical Information Service.

Evaluation and Technical Assistance of the Medicare Alzheimer's Disease Demonstration

Project No.: 500-89-0069
Period: September 1989—September 1993
Funding: $ 1,999,812
Award: Contract
Contractor: Institute for Health and Aging
University of California, San Francisco
201 Filbert Street
San Francisco, CA 94133
Project Officer: Dennis M. Nugent
Division of Long-Term Care Experimentation
Mandates: Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)
Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: The Medicare Alzheimer's Disease Demonstration was authorized by Congress under Section 9342 of Public Law 99-509 to determine the effectiveness, cost, and impact on health status and functioning of providing comprehensive services to beneficiaries who have dementia. Two models of care are being studied under this project. Both provide case management and a wide range of in-home and community-based services, including homemaker and personal care services, adult day care, and education and counseling for family caregivers. The two models vary by the intensity of the case management beneficiaries and their families receive and the level of Medicare reimbursement that is available each month to pay for demonstration services. Clients are responsible for a 20-percent coinsurance just as they are under the regular Medicare program. There are four Model A and four Model B sites participating in this demonstration. Under Model A, each site has a case manager to client ratio of 1:100 and a monthly expenditure cap of $300. Model A sites are located in Memphis, Tennessee; Portland, Oregon; Rochester, New York; and Urbana, Illinois. The case management ratio in the Model B sites is 1:30 and their monthly expenditure cap is $500. Model B sites are located in Cincinnati, Ohio; Miami, Florida; Minneapolis, Minnesota; and Parkersburg, West Virginia. Major questions to be addressed by the evaluation include:

- What factors are associated with the cost effectiveness of providing an expanded package of home care and community-based services to Medicare beneficiaries with Alzheimer's disease or related disorders?
- How do various services impact on the health status and functioning of dementia patients and their caregivers?
- What are the effects of providing community-based services on caregiver burden and stress?
- Do additional home care services delay or prevent institutionalization of beneficiaries with dementia?

Status: A provision in the Omnibus Budget Reconciliation Act of 1990 extended the demonstration from 3 to 4 years. It also increased the funding for the project's administrative and service costs from $40 million to $55 million and for the evaluation from $2 million to $3 million. During the first 2 years of the demonstration, the sites enrolled almost 5,000 Medicare

beneficiaries, including both treatment and control group members. However, there has been an unexpectedly high client attrition rate. Most of the individuals who have left the project have been disenrolled because of death or nursing home placement. To compensate for this greater than anticipated attrition, client enrollment was extended until October 31, 1991. This additional time gives the sites an opportunity to enroll other Medicare beneficiaries to replace those who have died or who have been institutionalized. The demonstration is scheduled to end in May 1993.

Research on Acquired Immunodeficiency Syndrome Cost and Utilization Experience in New York and California Medicaid Programs

Project No.: 18-C-99242/9
Period: June 1988—May 1991
Funding: $ 484,197
Award: Cooperative Agreement
Awardee: SysteMetrics/McGraw-Hill
104 West Anapamu Street
Santa Barbara, CA 93101
Project Officer: Penelope L. Pine
Division of Program Studies

Description: The purpose of this project was to:

- Use epidemiologic techniques to produce incidence analysis of acquired immunodeficiency syndrome (AIDS) from October 1982 to September 1987 for the Medicaid program in New York and from October 1982 to December 1988 for the Medicaid program in California.
- Study the eligibility patterns of AIDS patients covered by Medicaid.
- Develop a disease-staging algorithm for Medicaid AIDS patients.
- Provide a utilization and cost analysis for these populations.

Status: The following activities have been completed:

- Developed common definitions for key variables (including risk group and AIDS case definition).
- Constructed longitudinal person-level data files for research.
- Refined the disease-staging algorithm for AIDS.
- Conducted incidence, eligibility, and utilization analyses.

Preliminary findings from the longitudinal study of Medicaid eligibility patterns of persons with AIDS in California were presented at the 1989 Annual Conference of the American Public Health Association. Preliminary findings on the epidemiology, costs, and utilization of pediatric AIDS cases in New York State Medicaid (1983-87) were presented at the sixth International Conference on AIDS. Preliminary findings on utilization patterns for persons with AIDS covered by Medicaid in New York and California were presented at the 1990 Annual Conference of the American Public Health Association. This project has been completed. The final report entitled "A Study of the Cost and Utilization of AIDS Services in California and New York" has been received and accepted.

The Effects of the Human Immunodeficiency Virus Epidemic on the Uses of Medicaid by Women and Children

Project No.: 99-C-98489/9
Period: August 1989—July 1991
Funding: $ 155,096
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Penelope L. Pine
Division of Program Studies

Description: For this study, RAND will determine changes in State Medicaid programs that have resulted from the spread of the epidemic of human immunodeficiency virus (HIV)-related diseases. An analysis of the effects of the acquired immunodeficiency syndrome (AIDS) epidemic on Medicaid expenditures, services, and funding for other Medicaid eligibles will be performed. In particular, RAND will review State AIDS programs to examine Medicaid use by women and children.

Status: RAND collected Medicaid utilization data from 1983 to 1989. Researchers will analyze State variations in AIDS caseload volume compared with utilization by traditional Medicaid populations, especially women and children. Case studies from several States on Medicaid experience with HIV-infected women and children have been completed. A draft final report has been received and is under review.

Financing of Acquired Immunodeficiency Syndrome and Acquired Immunodeficiency Syndrome-Related Complex Treatment Costs by Medicaid and Medicare

Project No.: 18-C-99522/3
Period: May 1990—April 1994
Funding: $ 648,985
Award: Cooperative Agreement
Awardee: Maryland Department of Health and Mental Hygiene
Center for AIDS Services, Planning, and Development
201 West Preston Street
Baltimore, MD 21201
Project Officer: Penelope L. Pine
Division of Program Studies

Description: The State of Maryland proposes to develop a longitudinal data base of persons with human immunodeficiency virus (HIV) from 1981 through 1991. The project is expected to provide related-illness information on the extent to which patient, provider, and payer characteristics influence cost and use of health services on expenditures in Maryland under the Medicaid and Medicare programs. There are four major aspects to the study. The first is to maintain the data systems of the Maryland Human Immunodeficiency

Virus Information System as required to measure program use and financing. The second is to compare and refine three different disease-staging approaches for predicting resource consumption and treatment outcome during the course of the HIV disease. The third is a retrospective assessment of health services used by pediatric, adolescent, and adult patients with HIV. The fourth is to use annual utilization, reimbursement, and financing data to measure trends.

Status: The first year of the project has been completed. The 1990 Medicaid data have been obtained and data analysis has begun. Development of the Medicare data is in early stages.

Evaluation of Demonstration to Provide Medicaid Coverage for Human Immunodeficiency Virus-Positive Individuals

Project No.: 500-87-0028
Period: September 1991—September 1996
Funding: $ 1,486,676
Award: Technical Support: Evaluation of Demonstrations
(See page 82)
Contractor: Mathematica Policy Research, Inc.
P.O. Box 2393
Princeton, NJ 08543-2393
Project Officer: Debbie C. Van Hoven
Division of Health Systems and Special Studies
Mandate: Omnibus Budget Reconciliation Act of 1990
(Public Law 101-508)

Description: Mathematica will conduct an independent evaluation to assess the impact of providing a full range of Medicaid services to persons in the early stages of human immunodeficiency virus infection, compared with current program coverage which is generally not available until an individual becomes disabled because of acquired immunodeficiency syndrome. The demonstration will be conducted in two States.

Status: The solicitation for the demonstration is expected to be released to the State Medicaid Agencies in early October 1991. Awards will be made in April 1992. The solicitation provides for a 6-month developmental phase to be followed by a 3-year operational phase and a 3-month phaseout. Mathematica will work closely with the sites to assist implementation efforts. Mathematica will prepare both an interim and a final report.

Other Studies

Long-Term Care: Elderly Service Use and Trends

Project No.: 17-C-99376/3
Period: August 1989—June 1991
Funding: $ 245,249
Award: Cooperative Agreement
Awardee: The Brookings Institution
175 Massachusetts Avenue, NW.
Washington, DC 20036-2188
Project Officer: Judith A. Sangl
Division of Long-Term Care Experimentation
Mandate: Medicare Catastrophic Coverage Act of 1988
(Public Law 100-360)

Description: This project has three objectives:

- An analysis of the financial status of nursing home users.
- An analysis of the determinants of home care use.
- Projections of the numbers and level of disability among the elderly and their use of long-term care services.

Data from the following major surveys will be used—the 1982 and 1984 National Long-Term Care Surveys, the 1984-86 Supplement on Aging/Longitudinal Study of Aging, and the 1984 Survey of Income and Program Participation. Data will be analyzed using cross-tabulations, logistic and least squares regression analyses, and the Brookings/Intermediate Care Facility simulation model (updated and revised).

Status: Draft papers on the determinants of home care use and the relationship between informal and formal home care use have been completed. A final report is expected by the end of 1991.

Cohort Analysis of Disabled Elderly

Project No.: 99-C-98526/1
Period: August 1988—November 1991
Funding: $ 89,986
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Judith A. Sangl
Division of Long-Term Care Experimentation
Mandate: Medicare Catastrophic Coverage Act of 1988
(Public Law 100-360)

Description: For this project, researchers apply event history analyses to nationally representative data sources to derive estimates of the transitions between various health status categories and the duration within categories for different age groups. These data sources include multiple years of National Health Interview Surveys, mortality records, National Long-Term Care Surveys, Longitudinal Study of Aging, and the National Nursing Home Surveys. Researchers will also estimate, based on the type and level of severity of morbidity and disability categories, the risks involved and the duration of specific types of acute and long-term care.

Status: A draft final report on the analyses is expected in fall 1991.

Study of Alternative Out-of-Home Services for Respite Care

Project No.: 99-C-98526/1
Period: September 1988—February 1990
Funding: $ 239,495
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: J. Donald Sherwood
Division of Long-Term Care Experimentation

Description: For this study, Brandeis examined the advisability of expanding the respite care benefit to cover out-of-home services such as those provided in a nursing home or an adult day care center as an alternative to in-home respite care. Researchers assessed the advisability of broadening the respite care benefit to include alternative services, giving consideration to cost, access, quality of care, and the feasibility of implementation. This assessment was accomplished by using information collected from existing data sets and from ongoing respite programs and demonstrations.

Status: The final report entitled "Respite Care: Background and Use" has been received and is under review. Researchers conclude that both in-home and out-of-home care should be considered in the designs of any new respite programs. The report should be available in late 1991. With the repeal of the Medicare Catastrophic Coverage Act of 1988, this project is no longer congressionally mandated.

High-Cost Hospice Care

Project No.: 99-C-99168/3
Period: August 1990—July 1991
Funding: $ 54,941
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Feather A. Davis, Ph.D.
Division of Program Studies
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: The purpose of this project was to identify what constitutes "high-cost" Medicare hospice care, including per patient costs, long-stay patients and/or services that are high cost, and to determine or estimate the average cost of these services.

Status: A panel of clinical experts was convened to discuss the dimensions of use of high-cost procedures. Dimensions of use include measures such as the number of patients receiving hospice services, frequency and duration of use of these services, the diagnoses involved, and trends in the use of these procedures for palliation versus curative care. The particular focus is on pain control techniques used in hospice care. The report contains analyses of data on a sample of 1,600 hospice patients identified as high cost by the participating Medicare-certified hospices. The report also includes a literature review and abstracts, plus description of the Medicare hospice benefit. This project has been completed. A copy of the final report entitled "High-Cost Hospice Care: Final Report," will be submitted to the National Technical Information Service.

Long-Term Care Studies (Section 207)

Project No.: 500-89-0047
Period: September 1989—September 1994
Funding: $ 3,790,000
Award: Contract
Contractor: Health and Sciences Research Incorporated
9300 Lee Highway
Fairfax, VA 22031
Project Officer: Marvin A. Feuerberg, Ph.D.
Division of Long-Term Care Experimentation

Description: The purpose of this project is to conduct research related to the Health Care Financing Administration's Medicare and Medicaid programs in the area of long-term care (LTC) policy development. The contractor will focus primarily on four major areas:

- The financial characteristics of Medicare beneficiaries who receive or need LTC services.
- How the Medicare beneficiaries' characteristics affect their utilization of institutional and noninstitutional LTC services.
- How relatives of Medicare beneficiaries are affected financially and in other ways when beneficiaries require or receive LTC services.
- How the provision of LTC services may reduce expenditures for acute care health services.

Analyses will use existing LTC and other survey data bases (e.g., the National Long-Term Care Surveys, the Longitudinal Study of Aging, the National Nursing Home Survey, the Survey of Income and Program Participation, and the National Medical Care Expenditure Survey). Medicare administrative records and other extant information will also be utilized. A number of focused analytic studies, policy reports, syntheses, and special studies are required under the contract.

Status: The analytic plan for this project has been completed, a number of studies have been initiated, and a few draft reports have been received. With the repeal of the Medicare Catastrophic Coverage Act of 1988, this project is no longer congressionally mandated.

National Recurring Data Set Project: Ongoing National and State-by-State Data Collection and Policy/Impact Analysis on Residential Services for Persons with Developmental Disabilities

Project No.: 90DD0180/01
Period: August 1991—September 1992
Funding: $ 50,000
Award: Interagency Transfer

Awardee: The Administration on Developmental Disabilities
Room 336-D
Hubert H. Humphrey Building
200 Independence Avenue, SW.
Washington, DC 20201
Project Officer: Margaret F. Coopey
Division of Long-Term Care Experimentation

Description: The Health Care Financing Administration's transfer of funds to the Administration on Developmental Disabilities (ADD) is in support of an existing ADD grant to the Institute on Community Integration, Center for Residential and Community Services at the University of Minnesota. This supplement will support the conduct of secondary data analyses and the production of a report that will describe and update the status of persons with mental retardation and related conditions in intermediate care facilities for the mentally retarded (ICFs/MR), Medicaid waiver programs, and nursing homes funded under Medicaid in order to assist in the evaluation of Medicaid services for persons with these conditions, and to point out areas in need of reform. The report will include:

- A background description of the key Medicaid programs of interest.
- State-by-State and national statistics on ICFs/MR, Medicaid home and community-based services, and nursing home utilization.
- A description of the characteristics of ICFs/MR and their residents, with comparative statistics for noncertified facilities.

Status: This project is in the early developmental stage.

Categorization of Nursing Homes and Rehabilitation Facilities

Project No.: 99-C-99169/5
Period: August 1991—July 1992
Funding: $ 94,362
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Margaret F. Coopey
Division of Long-Term Care Experimentation

Description: Factors will be identified that differentiate the type and intensity of rehabilitative and other post-acute services provided to Medicare beneficiaries in nursing homes and rehabilitative facilities. Using these factors, a classification system will be developed of post-acute institutional providers based on the amount of rehabilitative care they provide. The system will provide information on the extent of overlap in the provision of rehabilitative services by these facilities and relate the identified patterns of care to institutional characteristics. The feasibility of the classification system will be tested in a pilot project by using a sample of nominated rehabilitation facilities and nursing homes. The results of the pilot project will be used to propose a study design for further refinements of the classification system and analysis of related issues.

Status: This project is in the early developmental stage.

Analysis and Comparison of State Board and Care Regulations and Their Effect on the Quality of Care in Board and Care Homes

Project No.: HHS-89-0031
Period: September 1991—September 1992
Funding: $ 200,000
Award: Interagency Transfer
Awardee: Office of the Assistant Secretary for Planning and Evaluation
Room 410-E
Hubert H. Humphrey Building
200 Independence Avenue, SW.
Washington, DC 20201
Project Officer: Margaret F. Coopey
Division of Long-Term Care Experimentation

Description: The Health Care Financing Administration (HCFA) has transferred funds to the Office of the Assistant Secretary for Planning and Evaluation (ASPE) in support of an existing contract with the Research Triangle Institute (RTI). ASPE has funded RTI to conduct a study to examine the relationship between the type and amount of State regulation and the quality of care in board and care homes. In addition, the study will document the characteristics of a large sample of board and care homes, their residents, and owners/operators. HCFA's support will enable the contractor to increase the project's sample size to allow for analysis of the relationship between additional characteristics of board and care homes and to conduct a more detailed field test.

Status: This project is in the early developmental stage.

Implementing Federal Regulations in Nursing Homes: A Conceptual Paper

Project No.: 99-C-99169/5
Period: April 1990—December 1991
Funding: $ 52,630
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Marvin A. Feuerberg, Ph.D.
Division of Long-Term Care Experimentation

Description: The purpose of this project is to develop a conceptual paper on the issues involved in regulating the use of psychoactive drugs in nursing homes, the range of problems that the long-term care (LTC) community and Health Care Financing Administration (HCFA) surveyors might face in implementing these regulations, the quality of large-scale data bases available for examining these issues and problems, and the research designs that would be most appropriate for studying the

impact of HCFA guidelines on the use of psychoactive drugs by nursing home elderly. Two panels of experts—a practitioner advisory panel consisting of five local practitioners in the LTC community and a national expert panel of researchers experienced in psychoactive drug use by nursing home elderly—will be used in this project.

Status: This project is near completion; a draft of the concept paper is expected in fall 1991.

Efficacy of Nursing Home Preadmission Screening

Project No.: 18-C-99213/1
Period: June 1988—December 1990
Funding: $ 376,698
Award: Cooperative Agreement
Awardee: Brown University
Division of Biology and Medicine
Providence, RI 02912
Project Officer: Phyllis A. Nagy
Division of Long-Term Care Experimentation

Description: In recent years, more than 30 States have adopted some form of preadmission screening, although the scope and methodology of programs vary considerably. The objective of this study was to analyze the extent to which four States' screening instruments accurately predict the need for nursing home level of care or an equivalent level of care provided in the community. Researchers focused in particular on the preadmission screen used by the State of Connecticut, with the goal of identifying possible refinements that would more appropriately place long-term clients in a cost-effective setting. This screen is designed to identify those persons who would be institutionalized if community-based services were not available. Brown University analyzed the extent to which the screen accurately predicts the need for a nursing home level of care or an equivalent level of community care.

Status: The cooperative agreement was completed in December 1990. The findings indicate that the four State screens varied in their degree of restrictiveness as well as in their ability to correctly predict those at risk and not at risk of nursing home admission. The study found clear trade-offs between higher rates of specificity and lower rates of sensitivity relative to the less restrictive screens—i.e., a greater number of false negative selections were likely to occur using the more stringent screens (excluding from eligibility persons at risk of nursing home admission), while a greater number of false positive selections were likely to occur using the less restrictive screens (identifying as at-risk individuals who would not become nursing home residents). Because of the large number of variables associated with the probability of nursing home use and the necessity of excluding variables such as age, sex, race, and place of residence from a screen used to determine eligibility for publicly funded services, none of the four screens were able to predict correctly more than 60 percent of the time. The final report entitled "Efficacy of Nursing Home Preadmission Screening" has been accepted and is available from the National Technical Information Service, accession number PB92-135805.

Financial Impact to Beneficiaries of Nursing Home Care

Project No.: 99-C-98526/1
Period: August 1988—August 1990
Funding: $ 129,888
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Judith A. Sangl
Division of Long-Term Care Experimentation
Mandate: Medicare Catastrophic Coverage Act of 1988
(Public Law 100-360)

Description: For this project, researchers used The Urban Institute's Transfer Income Model-2 (TRIM-2) for State estimates and the Connecticut Nursing Home Inventory data base to calculate nursing home use and payments. TRIM-2 is a microsimulation model based on the 1984 Current Population Survey used in forecasting use and payments. The Connecticut Inventory data base contains patient-specific information on all nursing home patients (private and public) from 1977 to the present. In addition, the 1985 National Nursing Home Survey was used to analyze several dimensions of nursing home use. From the collected data, estimates for the nursing home patients' spend-down provision were made.

Status: A draft report, "Changes in Duration and Outcomes of Nursing Home Stays: 1977-1985," was completed. The report concludes that changes have occurred in the overall composition of nursing home admissions from 1977 through 1985. The analysis indicates that nursing home patients have become older, more disabled, and more likely to have been admitted for terminal care. Once finalized, the report will be sent to the National Technical Information Service. An article was published in a journal: Liu, K., and Manton, K.: Nursing Home Length of Stay and Spend-down: Connecticut, 1977-1985. *Gerontologist* 31(2):165-173, 1991. This article reports data on nursing home stays over an 8-year period, October 1977 to September 1985. Person-specific records were merged with death certificates and Medicaid eligibility dates, and multiple stays for individuals were studied using life-table methodologies. One of the major study findings is the distribution of the length of nursing home stay based on person-level use (multiple stays rather than single stays are markedly different). For example, Connecticut's data based on person-level use indicate that 39 percent of an admission cohort are still residents at 2 years compared with only 16 percent based on single stays. This information has important implications for design of private insurance policies or public policy options. Another major finding is that approximately 21 percent

of individuals not covered by Medicaid who enter nursing homes ultimately convert to Medicaid. The timing of spend-down was over 1 year for one-half of the individuals, which is longer than indicated by some other studies. A final major finding is that the estimate of the proportion of Medicaid to total nursing home days is 55.3 percent. However, Medicaid's proportion to the cost of care is expected to be less because of the contribution from income of persons spending down.

Interaction of Medicaid and Private Long-Term Care Insurance

Project No.: 99-C-98526/1
Period: August 1991—July 1992
Funding: $ 80,000
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Judith A. Sangl
Division of Long-Term Care Experimentation

Description: For this study, researchers will examine the characteristics of purchasers and nonpurchasers of private long-term care insurance, the types of insurance purchased, and the role of State Medicaid program characteristics and personal characteristics in influencing the purchase decision.

Status: This project is in the early developmental stage.

Use of Medicare Part A and Part B in Nursing Homes

Project No.: 99-C-98526/1
Period: August 1991—July 1992
Funding: $ 100,000
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Judith A. Sangl
Division of Long-Term Care Experimentation

Description: For this project, researchers will examine the relationship between Medicare Part A and Part B service use in nursing homes. This includes examining:

- The extent to which Part B therapy services are used for patients with a fully or partially covered Part A skilled nursing facility stay.
- The patterns of physician visits to nursing homes.
- The overall Medicare Parts A and B costs incurred in the nursing home by Part A-covered patients.

Status: This project is in the early developmental stage.

Goals and Strategies for Financing Long-Term Care

Project No.: 99-C-99169/5
Period: August 1989—June 1991
Funding: $ 95,409
Award: Cooperative Agreement
Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: Nancy A. Miller, Ph.D.
Division of Long-Term Care Experimentation

Description: The purpose of this project is to use concepts drawn from a number of disciplines—economics, decision sciences, policy analysis, sociology, and demography—to develop statements of possible objectives for long-term care insurance. Defining objectives will include an analysis of benefits and costs from potential changes in financing and an analysis of expected behavioral changes in response to changes in financing. The meaning of these objectives will then be illustrated by applying them to several types of policy proposals:

- Subsidization of private insurance.
- Employer-provided insurance.
- Whole-life versions of insurance.
- Means-tested public insurance.
- Medicaid-equivalent subsidies.
- Catastrophic public insurance.
- Public provision of information on Medicare coverage and the need for insurance.

Status: Analyses have been completed, and a final report is expected in October 1991.

Prior and Concurrent Authorization Demonstrations

Project No.: 500-87-0029
Period: September 1987—July 1992
Funding: $ 827,200
Award: Technical Support: Evaluation of Demonstrations
(See page 82)
Contractor: Lewin/ICF
1090 Vermont Avenue, NW., Suite 700
Washington, DC 20005
Project Officer: Tony Hausner, Ph.D.
Division of Long-Term Care Experimentation
Mandate: Omnibus Budget Reconciliation Act of 1986
(Public Law 99-509)

Description: Under Section 9305 of Public Law 99-509, the Secretary of Health and Human Services is required to conduct a demonstration program concerning prior and concurrent authorization for post-hospital extended care services and home health services furnished under Part A or Part B of Title XVIII. This legislation responds to concerns expressed by home health agencies and skilled nursing facilities (SNFs) that under the current system of Medicare payment they cannot adequately predict what services the fiscal intermediaries (FIs) will deny as noncovered. In recent years, the number of visits denied by FIs has increased steadily. It is hypothesized that prior authorization (PA) and concurrent authorization (CA) payment approaches will reduce the number of services denied without increasing Medicare expenditures. Under PA, providers submit

treatment plans to FIs for review prior to the start of care; under CA, plans of treatment are submitted when care begins. In both approaches, the provider receives notification from the FI about how many services will be covered. This provides greater certainty about coverage and payment before services are given. The law requires that the demonstration include at least four projects and be initiated by January 1, 1987, and that the Secretary must evaluate the demonstration and report to Congress on the evaluation. The evaluation and report must address:

- The administrative and program cost for prior and concurrent authorization compared with the current system of retroactive claims review.
- The impact on access and availability of post-hospital services and timeliness of hospital discharges.
- The accuracy and cost savings of payment determinations and rates of claims denials compared with the current system.

The Bureau of Program Operations, Health Care Financing Administration (HCFA), implemented a home health CA pilot project in July 1987. This project was initiated in Illinois and in the entire Dallas region and is still in progress. Lewin/ICF implemented the SNF demonstration in September 1989 at sites in Indiana and Tennessee. Lewin/ICF is responsible for evaluating both the home health pilot project and the SNF demonstration.

Status: A Report to Congress based on Lewin/ICF's preliminary evaluation of the home health project and the design of the SNF project was submitted to Congress in August 1990. The SNF prior authorization demonstration ended in November 1990. Both an update of the home health pilot project and an evaluation of the SNF demonstration will be submitted to HCFA by February 1992.

Changes in Post-Hospital Care Utilization among Medicare Patients

Project No.: 99-C-98489/9
Period: August 1989—July 1991
Funding: $ 102,247
Award: Cooperative Agreement
Awardee: The RAND Policy Research Center
(See page 78)
Project Officer: Judith A. Sangl
Division of Long-Term Care Experimentation

Description: For this project, a data file was created linking Medicare billing records for inpatient hospital and post-hospital care for 1987 and 1988. RAND is using this file to document changes in post-hospital utilization among Medicare patients. The analyses will include an examination of skilled nursing facility, home health agency, and rehabilitative hospital care.

Status: Analyses are almost completed. A report of the findings is expected late 1991.

Activities of Daily Living Measurements as Determinants of Eligibility

Project No.: 99-C-98526/1
Period: August 1989—October 1990
Funding: $ 99,991
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Judith A. Sangl
Division of Long-Term Care Experimentation

Description: For this study, researchers will use data from the National Long-Term Care Surveys, the National Long-Term Care Channeling Demonstration, and the Social Health Maintenance Organization Demonstrations' comprehensive assessment form to examine issues associated with defining and measuring activities of daily living (ADL) for use as eligibility criteria for Medicare services. A cost analysis will be performed and other issues associated with using ADL scores as eligibility criteria will be discussed. Among the questions to be addressed are:

- What level of ADL impairments is used to trigger eligibility?
- Which ADL items should be used?
- Under what circumstances should assessments be performed and by whom?

Status: Three reports have been received. The first, "The Administration of Eligibility for Community Long Term Care," considers issues and makes recommendations on eligibility criteria; timing and setting of assessments; assessment items; assessor qualifications and training; and review and appeal procedures. The second, "Home Care for the Disabled Elderly: Predictors and Expected Costs," uses a Tobit estimation procedure on data from the 1982 National Long-Term Care Survey. Major predictors of the number of paid in-home visits per week include age, sex, living arrangement, number of informal helpers, income, and functional status. Cognitive impairment was not found to be a significant predictor. The parameter estimates then were used to simulate the cost of providing home care services to select populations based on various combinations of program eligibility standards and the costs of some anticipated behavioral responses to the institution of a home care program. The third, "Predicting Participation and Costs in a National Long Term Care Program: Lessons from the Social HMO," explores what service utilization and costs might be like if there were a managed-care approach to long-term care and how utilization and cost would vary with different participant characteristics. Once finalized, these reports will be sent to the National Technical Information Service.

Long-Term Care Supply and Medicare Hospital Utilization

Project No.: 17-C-99442/1
Period: August 1989—August 1990

Funding: $ 47,986
Award: Cooperative Agreement
Awardee: Abt Associates, Inc.
55 Wheeler Street
Cambridge, MA 02138-1168
Project Officer: Nancy A. Miller, Ph.D.
Division of Long-Term Care Experimentation

Description: The purpose of this project was to investigate how local variations in the availability of nursing home beds affect Medicare hospitalization rates. Effects on the number of admissions, the number of hospital readmissions, the number of hospital days used, and the costs per Medicare Part A enrollee were evaluated. Urban and rural differences were assessed. The impacts of community long-term care services, Medicare risk-contract health maintenance organization services, and the prospective payment system on Medicare Part A utilization were evaluated.

Status: Analyses have been completed, and a final report is expected in fall 1991.

Impacts of Long-Term Care Supply Differences on Medicare Service Use

Project No.: 99-C-98526/1
Period: August 1990—December 1991
Funding: $ 80,204
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Phyllis A. Nagy
Division of Long-Term Care Experimentation

Description: For this study, Brandeis will identify and assess methodological and practical problems associated with a potential investigation of access to long-term care (LTC) service and the resulting impact on beneficiary use of Medicare-covered services. These services include hospital care, Medicare-covered home health care, and Medicare-covered skilled nursing facility care. The project will directly address issues, which have been studied in various models, of the effects of LTC access and supply on utilization of health services. Brandeis will also develop a suggested study design on this topic.

Status: A draft conceptual model for this study has been submitted to the Health Care Financing Administration and is under review. The final report is expected in December 1991.

Urban/Rural Variation in Home Health Agency and Nursing Home Services

Project No.: 99-C-98526/1
Period: September 1989—December 1991
Funding: $ 155,096
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: William D. Saunders
Division of Long-Term Care Experimentation

Description: Brandeis University and The Urban Institute compared urban and rural home health services and nursing home services to determine variation between provider characteristics and service utilization patterns. The underlying cost structures of urban and rural home health agencies were studied as well. This study is national in scope and utilizes several Medicare data bases for analysis.

Status: The following reports have been prepared by The Urban Institute under this study:

- "Home Health Use Patterns in Rural and Urban Areas: Are They Different?"
- "Access to Home Health Services: Is it a Problem for the Rural Elderly?"
- "The Provision of Home Health Services: Is it a Problem in Rural Areas?"
- "The Provision of Nursing Home Services: Is there a Problem in Rural Areas?"
- "The Characteristics of Nursing Home Residents: An Urban-Rural Comparison."
- "Explaining Urban-Rural Differences in Skilled Nursing Facility Benefit Use."
- "Medicare Costs in Urban and Rural Nursing Homes: Are Differential Payments Required?"

These reports indicate that the proportion of Medicare beneficiaries using home health services and the average number of visits per user are greater in urban areas. Within rural areas, use rates increase with population density. A greater proportion of home health visits provided to rural home health users is skilled nursing services, possibly substituting for reduced availability of physical, speech, and occupational therapists in rural areas. Researchers found that the supply of nursing home beds per 1,000 Medicare beneficiaries is higher in rural areas, but rural nursing homes are more likely to provide intermediate care facility level of care rather than skilled nursing facility (SNF) level of care. Access to the Medicare SNF benefit appears to be greatest in large metropolitan areas, followed by rural areas, with enrollees in small and medium-sized areas having less accessibility to beds. The hospital swing-bed program appears to be an important element of access to post-hospital SNF level of care in rural areas. One additional report is scheduled to be completed in October 1991. After review by the Health Care Financing Administration, all reports will be sent to the National Technical Information Service.

Analysis of Costs, Patient Characteristics, Access, and Service Use in Urban/Rural Home Health Agencies

Project No.: 99-C-99169/5
Period: September 1989—August 1991
Funding: $ 103,420
Award: Cooperative Agreement

Awardee: University of Minnesota Research Center
(See page 81)
Project Officer: William D. Saunders
Division of Long-Term Care Experimentation

Description: The purpose of this project was to study urban and rural differences in home health agency costs, patient characteristics, access to care, and service utilization patterns in the State of Wisconsin. The study included two types of analyses:

- Costs, patient characteristics, and service utilization patterns using home health care data from Wisconsin.
- Access to home health care services using patient-level Medicare data.

For the second type of analysis, Mathematica Policy Research, Inc., as subcontractor for the project, applied two of the "Aftercare Guidelines" to the Medicare plan of treatment data to develop a measure of access between urban and rural recipients of home health care.

Status: This project has been completed. Two reports were prepared. In the first, "Access to Medicare Home Health Agencies: Differences Between Urban and Rural Areas," researchers indicate that Medicare home health users in rural areas of Wisconsin used fewer physical therapy services than those in urban areas. It appears that rural home health agencies may have compensated by providing more restorative skilled nursing services. In the second, "Analysis of Costs, Patient Characteristics, Access, and Service Use in Urban and Rural Home Health Agencies," researchers estimate a total cost function for home health agency costs in urban and rural areas of Wisconsin. Findings indicate that urban residents in Wisconsin were more likely to be home health patients and to receive more visits, but that these differences may be explained by differences in the types of patients being served in these areas. Both reports will be sent to the National Technical Information Service in the fall of 1991.

Determinants of Home Care Costs

Project No.: 99-C-98526/1
Period: August 1990—June 1992
Funding: $ 125,140
Award: Cooperative Agreement
Awardee: Brandeis University Research Center
(See page 79)
Project Officer: Judith A. Sangl
Division of Long-Term Care Experimentation

Description: The major aim of this project is to develop a better understanding of the relationship between economic and program status and formal home care use and costs. The relationship between health status (i.e., functional, cognitive, and medical) and the use and costs of formal home care will be examined. If data permit, the analysis will be expanded to include informal home care. If this is possible, the mix of formal and informal care received by individuals can be explored. Data from Connecticut Community Care, Inc., will be used.

Status: This project is finalizing the study design and determining the data elements and the study sample to be drawn from the agency records.

Study of Medicare Home Health Agency Use of the Home Health "Case Management" Benefit

Project No.: 99-C-99168/3
Period: September 1991—July 1992
Funding: $ 42,925
Award: Cooperative Agreement
Awardee: Project HOPE Research Center
(See page 80)
Project Officer: Phyllis A. Nagy
Division of Long-Term Care Experimentation

Description: For this study, researchers will analyze Medicare claims and plan of treatment data for home health agencies (HHAs) in order to examine the provision of skilled patient management by HHAs. Recent information suggests that the use of this service has significantly increased in recent years as a result of changes in the interpretation of coverage requirements for home health care. This study will provide the Health Care Financing Administration with information on the characteristics of patients who are receiving this service, the types of HHAs that are furnishing the service, and the extent of regional variation in its use.

Status: This project is in the early developmental stage.

Nurse Practitioner/Physician Assistant Aggregate Visit Demonstration

Project No.: 95-C-99625/1
Period: September 1990—September 1993
Funding: $ 130,538
Award: Cooperative Agreement
Awardee: The Urban Medical Group
545 D Centre Street
Jamaica Plain, MA 02130
Project Officer: Phyllis A. Nagy
Division of Long-Term Care Experimentation
Mandate: Omnibus Budget Reconciliation Act of 1989
(Public Law 101-239)

Description: Under Section 6114(e) of Public Law 101-239, the Medicare program provides Part B coverage to nursing home residents for medical visits rendered by nurse practitioners who are members of a physician/physician assistant/nurse practitioner team. Under this legislation, the number of visits supplied to any nursing home patient is limited to an average of 1.5 visits per month. Section 6114(e) mandates a demonstration project under which the visit limitation would be applied on an average basis over the aggregate total of residents receiving services from members of the provider team. A preliminary Massachusetts demonstration project, Case Managed Medical Care for Nursing Home Patients, used nurse practitioners and

physician assistants to provide visits to nursing home patients. This demonstration ended on September 30, 1990. Researchers propose to use the original Massachusetts demonstration sites for this second project, which will effectively eliminate the need to recruit and/or train provider teams for new sites and will allow researchers to focus on operational questions and carrier capabilities. The project will be conducted in two parts. The first will be a planning and development stage, which will include finalizing the research design, obtaining consent from all providers and patients, and software development and implementation by the carrier. The second part will be the actual implementation and operation of the demonstration, which is scheduled for early 1992.

Status: This project is in the developmental stage. Negotiations with the Medicare carrier, Massachusetts Blue Cross and Blue Shield, are almost complete. The Urban Medical Group has been working with the medical teams and nursing homes on the design of this demonstration.

List of Congressionally Mandated Studies

Quality of Care

Physician and Ambulatory Care Payment Systems

Capitated Payment Systems

Hospital Payment

Program Efficiencies, Analyses, and Refinements

Health Care Prevention and Access

Subacute and Long-Term Care

Availability of Project Reports and Results

As extramural projects are competed, the final reports are placed with the National Technical Information Service (NTIS) for public access. For those projects with final reports at NTIS, the accession number for ordering purposes is given in the project writeup. Reports are available in hard copy or microfiche form; costs vary depending on the size of the reports. Further information may be obtained from: National Technical Information Service, Document Sales, 5285 Port Royal Road, Springfield, Virginia 22161, (703) 487-4650.

A few final reports are published by the Health Care Financing Administration. These reports are available for sale from the U.S. Government Printing Office (GPO). Reports must be ordered by title and stock number directly from GPO. For those projects with published final reports, ordering information is given in the project writeup. Send check or money order for the price listed and make payable to: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

In addition, results from intramural and extramural research projects and demonstrations are often featured in the *Health Care Financing Review*, the Agency's quarterly journal. The journal also offers synopses on newly awarded research and demonstration projects being funded by the Health Care Financing Administration. The *Review* is available on a subscription basis from the Superintendent of Documents for $19.00 ($23.75 foreign). Subscribers receive four quarterly issues and one annual single-theme supplement per year.

U.S. Department of
Health and Human Services
Health Care Financing Administration
Room 2230 Oak Meadows Building
6325 Security Boulevard
Baltimore, Maryland 21207

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